



20 | 21 | 22 February, 2019

Venue: Symbiosis International (Deemed University)
Pune, India

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Faculty of Humanities and Social Sciences

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INTERNATIONAL (DEEMED UNIVERSITY)

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- To foster the spirit of national development
- To inculcate cross cultural sensitization
- To develop global competencies amongst students
- To nurture creativity and encourage entrepreneurship
- To enhance employability and contribute to human resource development
- To promote health and wellness amongst students, staff and community
- To instil sensitivity amongst the youth towards the community and environment
- To produce thought provoking leaders for the society

**International Conference on
Future of Employment:
Challenges and Opportunities (FECO 2019)**

Editor

Prof. Jyoti Chandiramani
Dean, Faculty of Humanities and Social Sciences
Director, Symbiosis School of Economics

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- Dr. Debdulal Thakur • Dr. V. Kalyan Shankar • Dr. Shrabani Mukherjee
- Dr. Ishita Ghosh • Dr. Ranjan Das

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Ms. Vaibhavi Pingale
Research Assistant, Symbiosis School of Economics

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Publication Team: Vaibhavi Pingale

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Leadership at SIU

Dr. S.B. Mujumdar

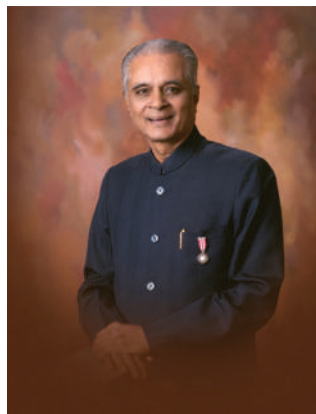
Founder and Chancellor, Symbiosis International University

(Awarded Padma Bhushan and Padma Shri by President of India)

Prof. Dr. S.B. Mujumdar is the Founder and President, Symbiosis, and Chancellor, Symbiosis International (Deemed University). A renowned academic and educationalist, he has received civilian honour many times by the Government of India. He was awarded Padma Shri in 2005 and Padma Bhushan in 2012. He was also awarded Punyabhushan in 2009.

The complete list of accolades is far too long for these pages, and includes Maharashtra Gaurav Award and the FIE Foundation Award.

He was born on 31 July 1935, in Gadhinglaj, Kolhapur district, Maharashtra. He won a Master's degree in Botany and a Doctorate in Microbiology. He was the Head of the Department of Botany at the Fergusson College, Pune, for over twenty years. He has authored a number of books and published research papers in botany. He also served on the Executive Council, Senate, and Academic Council of the University of Pune for several years.



Dr. Vidya Yeravdekar

Pro Chancellor and Principal Director,
Symbiosis International University



Dr. Vidya Yeravdekar is the Principal Director of Symbiosis Society, which encompasses the Symbiosis schools, College of Arts & Commerce and institutions under the Symbiosis International University. She is also the Pro Chancellor of Symbiosis International University. Dr. Vidya holds a Post Graduate Degree in Medicine, a degree in Law and PhD. in ‘Internationalisation of Higher Education in India’. She has been instrumental in bringing in innovative approaches to promote internationalisation.

Dr. Vidya has been able to influence policy regulations for promoting and bringing in innovative approaches to higher education in India through her appointments on various governmental bodies. She has been a member of University Grants Commission (UGC) for two terms, Central Advisory Board of Education (CABE) and Indian Council for Cultural Relations (ICCR). She has also served as a member on many other organizations such as Independent Director on the Board of RITES Limited under Ministry of Railways, Government of India, Indian Institute of Corporate Affairs, Yeshwantaro Chavan Maharashtra Open University, State Knowledge Advisory Board of Higher Education, Government of Andhra Pradesh, Sub-Group on Higher & Technical Education and Skill Development of Chief Minister’s Advisory Council, Government of Rajasthan.

She is a Chairperson of the FICCI Committee on Higher Education. Dr. Vidya has been appointed as a member of India Brand Equity Foundation (IBEF) Trust. She has been elected as member of the Central Governing Council of Services Export Promotion Council (SEPC) set up by Ministry of Commerce & Industry, Government of India.

She is a member on the Board of several organisations like Rayat Shikshan Sanstha; Symbiosis University of Applied Sciences, Indore; Symbiosis Skills and Open University, Pune; Research Committee of the Association of Indian Universities (AIU) and Public Health Foundation of India. She is a member of many corporate bodies such as Federation of Indian Chambers of Commerce & Industry (FICCI), Confederation of India Industry (CII), Maratha Chambers of Commerce and Industries (MCCIA) and not-for-profit organisations like HK Firodiya Foundation, India International Centre (IIC), Pune International Centre (PIC) and Pune Citizens Police Foundation (PCPF).

She has been ranked No. 14 amongst India’s top 25 Powerful Women by Fame India Magazine. Dr. Vidya’s hard work has won her numerous awards and accolades and she is now focussed on making Symbiosis International University benchmarked amongst one of the best universities in Asia.

Dr. Rajani R. Gupte

Vice Chancellor, Symbiosis International (Deemed University)

Dr. Rajani Gupte, a distinguished academic, received her Doctorate degree in Economics from the prestigious Gokhale Institute of Economics and Politics, Pune. She has been actively engaged with higher education for over thirty years, both as a professor and researcher. She has taught at many foreign universities as well, including the Oakland University, Michigan, US, and Bremen University of Applied Sciences, Germany.



She has been a part of the leadership team at Symbiosis for over two decades. She joined Symbiosis as a founding member of the Symbiosis Institute of International Business in 1992. She was the Director of the Institute between 2004 and 2012. Her headship led the Institute to be established as one of the top-ranking business schools in India. A capable institution-builder, Dr. Gupte has also earlier held the positions of Dean, Faculty of Management, Dean, Academics and Pro-Vice Chancellor at the Symbiosis International (Deemed University).

She is an independent Director on the Governing Board of NSDL and Board of L&T Finance Limited, L&T Housing Finance Limited and L&T Finance Holdings Ltd. She has been frequently invited on committees of important organizations, such as International Trade Panel - Confederation of Indian Industries (CII), World Trade Organization Committee, Govt. of Maharashtra, and Chemtech World Expo. She has also served on committees appointed by the UGC and on working groups on higher education. She has recently been appointed as an external member on the Academic Council of NITTE University.

Dr. Gupte is one of the ten women selected from across Asia who have attended the 'Women in University Administration programme' sponsored by the U.S. Department of State. She was invited to be a part of a committee of eminent economists formed by NITI Aayog to interact with the Honorable Prime Minister on "Economic Policy: The Road Ahead" in January 2018.

Dr. Gupte has received several awards for her outstanding contribution to education. The Lokmat National Education Leadership Awards 2015, the "Swayamsidha Puraskar 2015" by Lions Club of Pune Elite, the 'Think Pure Award' by the 'Think Pure Social Welfare Foundation' in 2016, for being one of the most influential Vice Chancellors amongst the top 100 Vice Chancellors in India by the World Education Congress award in 2016, "The Iconic Leader Award - Creating a better world for all" at the Women Economic Forum 2017 and a "Visionary Eduleader of India" for being an institution builder at the hands of Shri Pranab Mukerjee, former President of India.

Dr. Jyoti Chandiramani

Director, Symbiosis School of Economics
& Dean Faculty of Humanities and
Social Sciences, Symbiosis International
University

Dr Jyoti's journey into the field of Higher Education spans over 35 years since 1982, playing the role as a teacher, administrator, researcher and deeply involved at every stage with the process of institution building.

She is a social scientist, presently in the role of Director, Symbiosis School of Economics and Dean, Faculty of Humanities and Social Sciences at the Symbiosis International (Deemed University).

Dr. Jyoti has been an integral part of Symbiosis with her journey beginning with the Symbiosis College of Arts & Commerce (1985-2013), where she worked in the capacity as the Head of the Department (1991-2013). She was a member of the core-team, responsible for the setting up of the first Symbiosis Centre for Liberal Arts in India (2006). Since 2010, till date she has been steering the progress of Symbiosis School of Economics (SSE), established in 2008 and as the Dean, Faculty of Humanities and Social Sciences – Symbiosis International (Deemed University) (SIU) – for the fourth term. At SSE, with the team she has played a leading role in establishing one of India's leading schools of Economics, committed to provide students an educational journey of academic excellence and lifelong learning.

Her interest areas of research range from Foreign Direct Investments to International Economic Cooperation and Governance to Urban Economic Development (urban poverty, urban mobility, urban policy, etc.).



Preface

Employment has always been an integral part of economic thought and discourse - be it the theory of division of labour from classical economics or recent concerns about replacement of workers due to evolution of technology. The technological disruption of automation, robotics, internet of things and big data analytics are directly related to the worker. Technological change is not of recent origin and in the past, has been the catalyst for creation of newer jobs. However, the Industrial Revolution 4.0 is suspected to be different; it will account for lesser creation of jobs and greater replacement of workers. There is an environment of fear and uncertainty as far as jobs are concerned, and expert deliberations are the need of the hour to clear the haze. The conference on 'Future of Employment: Challenges and Opportunities' was organized with this intention in mind. It sought to address the future challenges of jobs as also various concerns integral to this broader theme viz. data on employment, informalisation of employment, skills and training, labour law reforms and entrepreneurship. Moving a step ahead, the conference also attempted to address the hidden opportunities that India can leverage by creating better data, education and skills and job opportunities.

Questions are raised about the quality and standard of education in India, as the unemployment among the educated youth has been on the rise. A skill mismatch prevails in the Indian labour market while at the same time, there is a dearth of quality jobs. Further, there is a huge informal sector that contributes to job creation but also has poor working conditions and hardly any regulations. The presence of the informal sector makes it difficult to capture the whole picture in terms of the data on employment.

Employment statistics are central to any policy making and planning, be it for the formal or informal sector. What kind of data would be needed to reliably measure employment/unemployment? Government released data or the data released by private institutions? Fast frequency data or annual or quarterly or weekly data? These are important questions to address.

Indian employment law is heavily bureaucratic, with numerous statutory requirements with regard to contracts, termination procedures as well as employee pensions and holidays. These laws create constraints in terms of ease of doing business and discourage entrepreneurs – both at the level of start-ups as well as Micro, Small and Medium Enterprises (MSMEs). India has witnessed a sharp rise in the number of start-ups. In order to enable these start-ups to sustain

and contribute to the economy and employment, a conducive environment is a pre-requisite. The conducive environment includes not only infrastructure but also skilled workers who can add value to the company.

Employment and education are deeply interwoven and manifest across all sectors of the economy. To become a knowledge economy in the era of technological disruptions, India primarily needs to focus on educating and skilling the workforce. As rightly said by Satya Nadella, CEO, Microsoft at the World Economic Forum in Davos 2016:

“The emphasis needs to be placed on skills, we will have to spend the money to educate our people – not just the children, but also people getting misplaced mid-career – so that they can find new jobs.”

Education, skill development and lifelong learning will be the pillars of the jobs of tomorrow. It is imperative to work on them today to tackle the employment challenges of the future.

Prof. Jyoti Chandiramani

Acknowledgements

“Future of Employment: Challenges and Opportunities” (FECO 2019) has been an extremely erudite conference, organised to commemorate the tenth year of the School of Economics. The conference was organised with the help of intellectual and financial support from our parent University – Symbiosis International (Deemed University) and we place on record our thanks to our Chancellor – Dr. S.B. Mujumdar, Pro-Chancellor – Dr. Vidya Yeravdekar and Vice Chancellor – Dr. Rajani Gupte.

We convey our deepest gratitude to Prof. Elisabetta Magnani, Head, Department of Economics, Macquarie University (MQU) – for partnering with us on this important issue of the future of employment and bringing in useful discussion on the cross-country challenges. The research grant extended by MQU to Symbiosis School of Economics will go a long way to continue our work with respect to employment challenges with respect to Micro-Small and Medium Enterprises.

The conference was intellectually nurtured by our knowledge partners, each of them bringing on board a wide array of resource persons, enriching the deliberations with their multiple perspectives. I take this opportunity to thank all our knowledge partners and express our deepest gratitude to:

- (i) Alakh Sharma, Director, Institute for Human Development (IHD)
- (ii) Janak Nabar, CEO, Centre for Technology, Innovation and Economic Research (CTIER)
- (iii) Leonie Nagrajan, Director, Asia Europe Foundation (ASEF)
- (iv) Rajat Kathuria, Director and Chief Executive, Indian Council for Research on International Economic Relations (ICRIER)
- (v) Ramakrishna Raman, Director, Symbiosis Institute for Business Management (SIBM) and Dean Faculty of Management, Symbiosis International (Deemed University) – (SIU)
- (vi) United Nations Development Programme (UNDP), and Disha, supported by IKEA Foundation

We would like to thank Axis Bank for all the financial services they have provided us.

We would like to acknowledge the contributions of the Chairpersons and speakers across all tracks who individually and collectively were responsible to raise the level of the discussions and deliberations by providing valuable insights and rich contribution with regard to various aspects of employment and

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unemployment such as productivity, innovation, data, informal sector, labour reforms, education and entrepreneurship.

Indeed, the conference could only be a success because of such partnerships and the team effort put forward by our faculty, staff and students at the Symbiosis School of Economics.

Symbiosis School of Economics (SSE) sincerely thanks all the valuable partners of 'Future of Employment: Challenges and Opportunities (FECO)' Conference 2019 for their significant contributions



Prof. Elisabetta Magnani

Head, Department of Economics, Macquarie University (MQU), Australia
Knowledge Partner for the Track: Cross-Country Challenges



Ms. Leonie Nagarajan

Director, Asia Europe Foundation (ASEF)
Knowledge Partner for the Track: Education, Skill Development and Employment



Dr. Alakh Sharma

Director, Institute for Human Development (IHD)
Knowledge Partner for the Track: Informal Economy Concerns:
Contributions and Challenges for the Future



Dr. Rajat Kathuria

Director and Chief Executive, Indian Council for Research on
International Economic Relations (ICRIER)
Knowledge Partner for the Tracks: Challenges in Employment Statistics
and Labour Reforms & Employment



Mr. Janak Nabar

CEO, Centre for Technology, Innovation and Economic Research (CTIER)
Knowledge Partner for the Track: Productivity, Technology and Innovation



Dr. Ramakrishna Raman

Director, Symbiosis Institute for Business Management (SIBM) and Dean
Faculty of Management, Symbiosis International (Deemed University) (SIU)
Knowledge Partner for the Track: Entrepreneurship and Employment



Mr. Clement Chauvet
Chief, Skill and Business Development, UNDP India
Representative from UNDP India

Conference Tracks

Inauguration Track

1. **Dr. Jyoti Chandiramani**, Dean, Faculty of Humanities and Social Sciences, Symbiosis International University, Pune
2. **Dr. S.B. Mujumdar**, Chancellor, Symbiosis International University, Pune.
3. **Dr. Martin Rama**, Chief Economist for the South Asia region of the World Bank, based in Delhi (Keynote Address)
4. **Dr. Rajani Gupte**, Vice-Chancellor, Symbiosis International University, Pune

Track 1: Challenges in Employment Statistics

1. **Dr. Radhicka Kapoor**, Senior Fellow, Indian Council for Research on International Economic Relations, New Delhi. (Track Chair)
2. **Dr. Ajit Kumar Ghose**, Institute for Human Development, New Delhi
3. **Mr. Mahesh Vyas**, Managing Director and CEO of Centre for Monitoring Indian Economy Pvt Ltd, Mumbai
4. **Dr. Amit Basole**, Associate Professor, Azim Premji University, Bangalore

The knowledge partner for this track: **ICRIER**

Track 2: Productivity, Technology and Innovation

1. **Mr. Pradeep Bhargava**, President, MCCIA, Pune (Track Chair)
2. **Prof. Smita Srinivas**, Technological Change Lab and Economics Department, The Open University UK; Science, Technology, Engineering and Public Policy (STeAPP), University College London
3. **Mr. Janak Nabar**, CEO, Centre for Technology Innovation and Economic Research, Pune
4. **Dr. Sunil Mani**, Director, Centre for Development Studies, Thiruvananthapuram
5. **Dr. Rakesh Basant**, Professor, Indian Institute of Management, Ahmedabad

The knowledge partner for this track: **CTIER**

Track 3: Informal Economy Concerns: Contributions and Challenges for the Future

1. **Dr. Alakh Sharma**, Director, Institute for Human Development, New Delhi (Track Chair)
2. **Dr. Arup Mitra**, Director General, National Institute for Labour Research and Development, New Delhi
3. **Dr. Ravi Srivastava**, Director, Center for Employment, Institute for Human Development, New Delhi

4. **Dr. Jeemol Unni**, Head, Department of Economics, Ahmedabad University, Ahmedabad

The knowledge partner for this track: **IHD**

Track 4: Labour Reforms and Employment

1. **Dr. Rajat Kathuria**, CEO, Indian Council for Research on International Economic Relations, New Delhi (Track Chair)
2. **Dr. Aditya Bhattacharjea**, Professor, Delhi School of Economics, New Delhi
3. **Dr. Jaivir Singh**, Professor, Jawaharlal Nehru University, New Delhi
4. **Dr. K.R. Shyam Sundar**, Professor, XLRI, Jamshedpur
5. **Dr. Rahul Sapkal**, Assistant Professor, National Law School of Maharashtra, Mumbai

The knowledge partner for this track: **ICRIER**

Track 5: Education, Skill Development and Employment

1. **Dr. Vidya Yeravdekar**, Pro-Chancellor, Symbiosis International University, Pune (Track Chair)
2. **Mr. Guntars Catlaks**, Director, National Centre for Education, Ministry of Education and Science of the Republic of Latvia
3. **Dr. Vinnie Jauhari**, Director, Education Advocacy, Microsoft Corporation India Pvt. Ltd.
4. **Dr. Santosh Mehrotra**, Professor of Economics, Centre for Informal Sector and Labour Studies, School of Social Sciences, Jawaharlal Nehru University, New Delhi.
5. **Mr. Clement Chauvet**, Chief, Skill and Business Development, UNDP India

The knowledge partner for this track: **SIU/ASEF**

Track 6: Entrepreneurship and Employment

1. **Mr. Clement Chauvet**, Chief, Skill and Business Development, UNDP India (Track Chair)
2. **Ms. Shilpa Pophale**, Managing Director, Electronica Finance Limited, Pune
3. **Mr. Suresh Krishna**, Co-founder, Yunus Social Business Fund, Bengaluru
4. **Mr. Arjun Panchal**, Founder and CEO, Papa Zapata, Pune
5. **Prof. R. Raman**, Director, Symbiosis Institute of Business Management

The knowledge partner for this track: **SCIE & SIBM**

Track 7: Cross-country Challenges

1. **Dr. Elisabetta Magnani**, Professor of Economics, Macquarie University, Australia
2. **Dr. P.N. (Raja) Junankar**, Emeritus Professor, Dean's Unit - School of Business, Western Sydney University, Australia

The knowledge partner for this track: **Department of Economics - Macquarie University**

Concept Note

Employment Security is a critical issue for a welfare state and has therefore been the prime macroeconomic agenda for governments across the world. Several recent global developments, such as Trump's Immigration Policy, the ruling Government's Make in India and Skill Development Programme, Brexit etc., clearly underline the importance of employment. Nevertheless, there are several challenges to this sector such as high unemployment rates across various countries, limited availability of decent work and social discrimination, along with other emerging issues arising on account of technological advancement, automation, digital platforms, and other innovations which are changing the fundamental nature of work. To add to the list is the impact on jobs and workers on account of climate change mitigation and adaptation. Workers displaced by increased use of automation and robotics and loss in jobs due to the shutdown of carbon intensive industries are relevant examples here. Oxford University researchers (Carl Frey and Michael Osborne) claim that technology will transform many sectors of life. Their study of 702 occupational groupings found that "47 percent of U.S. workers have a high probability of seeing their jobs automated over the next 20 years." A more recent McKinsey report, "Jobs Lost, Jobs Gained," found that 30 percent of "work activities" could be automated by 2030 and up to 375 million workers worldwide could be affected by emerging technologies.

On the other hand, several new jobs are becoming apparent due to the above changes, for example, the renewable energy sector. Studies estimate that India's ambitious target of achieving 175 GW of renewable energy (RE) by 2022 could create 3,30,000 jobs in the wind and solar energy sectors alone. There are a number of other examples as well – few of them are artificial intelligence, big data analysts, and digital industry. However, most of the above emerged jobs require special skills and unavailability of skilled workforce is identified as one of the major challenge in hiring required personnel. It highlights the skill gap, which, further, emphasizes the role of educational institutions to address the same. As a result, education and training institutions need to update their curriculum and pedagogy to prepare the human resources for the changing scenario with appropriate skill sets essential to make them employable. According to a joint report by Natural Resources Defense Council and Council on Energy, Environment and Water, solar companies find a lack of proximity to training institutes to be the most difficult challenge to overcome the hiring of trained personnel and therefore currently rely primarily on in-house training to meet their needs. The poor quality of existing training programmes was

identified by respondents as the biggest challenge facing existing training programmes for solar employers in India.

Against the above backdrop, Symbiosis School of Economics (SSE) under the aegis of the Faculty of Humanities and Social Sciences organised an international conference on 'Future of Employment: Challenges and Opportunities' (FECO 2019). This conference was a joint effort of the Symbiosis School of Economics (Pune), Asia-Europe Foundation (ASEF), Centre for Technology, Innovation and Economic Research (CTIER), Indian Council for Research on International Economic Relations (ICRIER), Institute for Human Development (IHD), and Macquarie University (MQU). The prime objective of this conference was to discuss how recent social, economic, political as well as technological developments pose serious challenges to the employment sectors and to explore the future opportunities that need to be created. Key policy instruments required for availing the opportunities and minimise the threat were also discussed at this conference.

List of Acronyms

| | |
|--------|------------------------------------------------------|
| ADB | Asian Development Bank |
| AI | Artificial Intelligence |
| ASI | Annual Survey of Industries |
| B2B | Business-to-Business service |
| B2C | Business-to-Consumer |
| BB | Besley and Burgess Index |
| CMIE | Centre for Monitoring Indian Economy |
| E&Y | Ernst & Young |
| ECR | Electronic Compliance Report |
| EPF | Employee Provident Fund |
| EPFO | Employment Provident Fund Organisation |
| ESI | Employee State Insurance |
| FICCI | Federation of Indian Chambers of Commerce & Industry |
| GDP | Gross Domestic Product |
| GMM | Gaussian Mixture Model |
| GoI | Government of India |
| GST | Goods and Services Tax |
| HH | Household |
| IDA | Industrial Disputes Act |
| ILO | International Labour Organization |
| IPO | Initial Public Offering |
| IPR | Intellectual Property Right |
| IT | Information Technology |
| ITDP | Institute for Transportation and Development Policy |
| LDCs | Less Developed Countries |
| MNCs | Multinational Corporations |
| MOOCs | Massive Open Online Courses |
| MRP | Marginal Revenue Product |
| MSME | Micro, Small and Medium Enterprise |
| NABARD | National Bank for Agriculture and Rural Development |

| | |
|--------|------------------------------------------------------------------|
| NBFC | Non-Banking Financial Company |
| NEET | Not in Education, Employment and Training |
| NGOs | Non-government Organizations |
| NSDC | National Skill Development Corporation |
| NSS | National Social Service |
| NSSO | National Sample Survey Organisation |
| OECD | Organisation for Economic Co-operation and Development |
| PLFS | Periodic Labour Force Survey |
| R&D | Research and Development |
| SC | Scheduled Castes |
| SEWA | Self Employed Women's Association |
| SEZ | Special Economic Zones |
| STEM | Science, technology, engineering, and mathematics |
| UILs | University-Industry Linkages |
| UN | United Nations |
| UNDP | United Nations Development Programme |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |
| VET | Vocational Education and Training |

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Inaugural Session

Key note speaker: Dr. Martin Rama

Chief Economist, South Asia, World Bank, New Delhi



Dr. S.B. Mujumdar, Chancellor, Symbiosis International (Deemed University) (SIU), Pune lighting the lamp to inaugurate the conference.

Others in photo (L to R): Dr. Jyoti Chandiramani, Dean, Faculty of Humanities and Social Sciences, Director, Symbiosis School of Economics, SIU, Pune; Dr. Rajani Gupte, Vice-Chancellor, SIU; Dr. Martin Rama, Chief Economist, South Asia, World Bank, New Delhi and Dr. Debdulal Thakur, Deputy Director, Symbiosis School of Economics, SIU, Pune



A token of gratitude given to Dr. Martin Rama by Dr. S.B. Mujumdar. Others in photo (L to R): Dr. Jyoti Chandiramani, Dr. Rajani Gupte and Dr. Debdulal Thakur.

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1. Dr. Jyoti Chandiramani

Professor & Director, Symbiosis School of Economics, Pune and Dean, Faculty of Humanities and Social Sciences, Symbiosis International (Deemed University), Pune



- The Director of the School gave her opening remarks of the conference. She expressed heartfelt gratitude to all the national and international partners, Macquarie University (MQU), Asia Europe Foundation (ASEF), Centre for Technology Innovations and Economic Research (CTIER), Indian Council for Research on International Economic Relations (ICRIER), Institute for Human Development (IHD), and Symbiosis Institute of Business Management (SIBM)
- Moving ahead she talked about the Symbiosis School of Economics (SSE) and the multidisciplinary research being undertaken by the institute for the last few years. She highlighted the research projects undertaken at SSE which includes: (i) The development of Rural Development Infrastructure Index for Maharashtra, which is funded by NABARD, (ii) Urban Governance Index for the state of Goa, (iii) Working on the Smart Cities of Maharashtra in coalition with INHAF, TISS and other partners, (iv) Providing consultancy on Congestion Pricing in Mumbai to the Institute of Transportation and Development Policy (ITDP) and (v) Sustainable Development Goals for Rural Maharashtra: Achievements and Constraints – funded by NABARD.
- Talking about the Conference, 'Future of Employment: Challenges and Opportunities (FECO)' is a biennial event which will be organised by the School every alternate year. The Conference has been instituted in the Tenth Year of the school, with an endeavour to discuss, deliberate and come out with policy recommendations on one of the most important macroeconomic goals of an economy – the goal of full employment. While full employment is a myth, in the backdrop of rising youth unemployment, both globally and in

India, it is a case of striving towards a declining natural rate of unemployment which is very important.

- With this brief backdrop, the Director welcomed all the speakers and participants to three days of meaningful exchange of thoughts, on one of the most talked about economic issues in India – the rising unemployment challenge and its pursuant strategies to take advantage of India's present demographic dividend.

2. Dr. S.B. Mujumdar

Chancellor, Symbiosis International University, Pune



- The Chancellor, Dr. Mujumdar, welcomed the speakers, participants and students to the conference and was honoured to be a part of the conference, which aims to deliberate with the most serious challenge of employment facing India, and how employment/unemployment has become a global issue.
- India has 134 crores population with 50% population (67 crores) being below 25 years. Therefore, India is presently a young country when compared to other countries in the world. He pointed out that USA has a total population of 32 crores, which means young population of India is more than double the total population of America. The population in UK is six crores which means the young population in India is more than 10 times that of UK. He was of the strong view that the large population should be converted into productive human resources. To leverage this advantage, India needs to find some immediate solutions.
- He pointed out that '*Education is the oxygen of development*'; it can address the issues related to employment. All these years India has seen a rise in the number of conventional universities and institutes with students not finding suitable employment or are not employable. He therefore stressed the need for different kind of education, institutes and universities – which will help skill our human resources.

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- The Chancellor stated that the Prime Minister Shri Narendra Modi's 'Skill India' initiative is very relevant in the given backdrop.
- Understanding the need of the hour, Symbiosis has started a Skill University in Pune to provide higher levels of skilling and training courses.
- To conclude, by stating that the skilled youth will not only be a big support for India but also for the other countries in the world, given the ageing process which is at an advanced level in many developed countries. In years to come, the skilled manpower will boost India's growth and steer India towards a higher trajectory of development.

3. Dr. Martin Rama

Chief Economist, South Asia, World Bank, New Delhi



- Dr. Martin Rama, the key note speaker, stated that he was honoured to be part of the conference as the theme of the conference is related to his area of work experience. He also shared that he was enriched by the experience of working in India as a Chief Economist to the South Asian region, for the World Bank.
- He presented the work, which was prepared by his team on the challenge of employment across countries and also related to India. He divided his discourse in three parts: the first on the global challenge of employment for India; second, the digital revolution – and as this unfolds it is likely to pose additional challenges and lastly, the policies to address the challenge.
- He pointed out that labour earnings accounted for much of the decline in poverty in India but employment growth is generally low, particularly for women. The World Bank has identified that employment is the key to reduce the poverty in developing country like India.
- While the number of working age people is increasing, the fraction of working-age people who are at work has declined in India. He argued

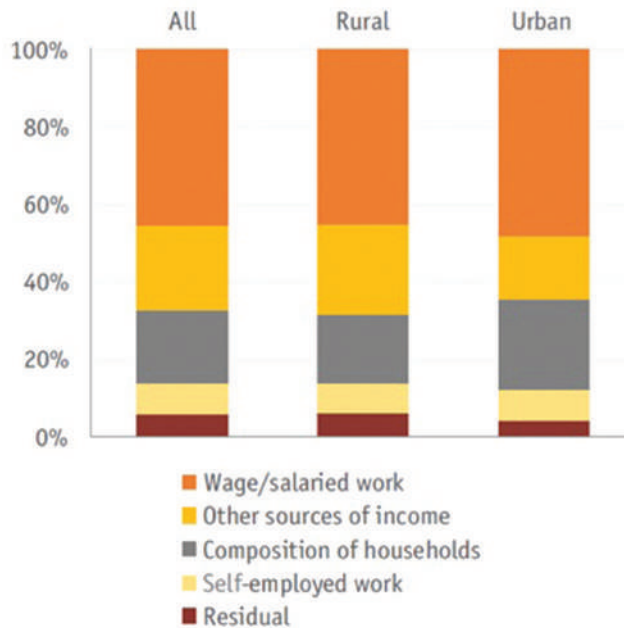


Figure 1: Labour earnings account for much of the decline in poverty.

Source: Pathways to Reducing Poverty and Sharing Prosperity in India. World Bank 2016.

that economic growth alone would not be enough to achieve the higher employment rates enjoyed by other developing countries in East Asia, especially among women. Therefore, with declining employment rates, India is foregoing some of its potential demographic dividend. To arrest further declines in employment rates, India would need to create seven million and more jobs a year.

- The speaker then moved to the second section of his talk - the global challenge of digital transformation or industrial revolution 4.0. He highlighted how the economic environment with respect to the types of job are going to change. The question that would be generally asked presently is, have you a wage job with an employer or regular job, or casual employee, or self-employed. This has created job anxiety as labour or humans can be replaced by machines and robots. Thus we pose a question on the future of work – what does it imply for the developing countries? The World Bank's recent publication estimates that as many as 35-45% of the jobs will be lost, while another study states 1-10% of jobs are at risk of disappearing. Researchers have to therefore be careful, while analysing and digging deeper into the methodology on hearing such numbers. The study undertaken to review the opportunities about the future of jobs compares three types of interaction: IKEA, Walmart, and Alibaba. About this apocalypse, the speaker highlighted that it seems like only computer scientists will have a job, but this is not true.

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He gave the example of Taobao¹ – which is an online shopping website created by Alibaba in 2003-04, and it is here that the villagers who are also the merchants and not computer scientists. While in India, Ola and Uber have created one million jobs – defying the argument that only jobs for computer scientists will emerge. Therefore, it is necessary to look at the job creation side and not job destructing side. While the picture is really worrisome for advanced economies, he was of the strong view that job creation will continue to happen in developing countries, as new opportunities will emerge.



Figure 2: New technologies also create jobs.

Source: The Changing Nature of Work, World Development Report 2019.

- Dr. Rama suggested few policy implications to address job challenges. He pointed out how discussions regarding labour policy reforms and flexibility end up in very heated arguments. It was also highlighted that while preparing the policy recommendations, there is a need to look at the challenges not from labour economics perspective but through public economy perspective. In the public economy, there are spill over to the society where individuals are not paying or are not penalised for their behaviour. This makes people focus on internalisation. Therefore, the recommendations given by the study are on these lines, that jobs have very high spill over effects for the society. For example, women at work is not just about the income generation, it is changing the men at home, as more goes to education and health of family members and ultimately the society improves its standard of living. No opportunities for men make them restless, it can make them negative or at times violent and distress in the society in which they live.

¹ Taobao is a Chinese online shopping website, registered in 2003, which is owned by Alibaba and headquartered in Hangzhou.

- Therefore, countries need to prioritise as per the gaps, that exist, and to understand the priorities there is a need for data and its analysis. He cited the example of the garment sector for unskilled women, which has led to no decline in the female labour force participation in Bangladesh.
- He mentioned that labour policies form the other part of the recommendations. However, labour policies have plateaued presently. In the Indian context, the complexity is enormous with respect to labour policies, wherein there are 47 central laws and more than 200 state laws, with threshold number of workers at every point. This is an outlier in international perspectives.
- While growth of firms is one of the key factors in economic growth, firms faces hurdles when they are not allowed to leave the industry.
- The phenomena of temporary workers in India is becoming increasingly prevalent.
- Most of the labour policies have come up from the domination of Western European type of relation between employer and employee. However, such policies are not suitable for the developing regions where part of the labour is wage employment and part is self-employment, or casual work employment. With the digital revolution, it is expected that a lot of jobs will keep on changing. However, it will benefit all, if the information and dataset required to provide social protection will be available. It is important to have the right perspective and mind set around the social protection, with labour being formal today and informal in the future.
- He had categorised the predictors of local economic growth in the following decade into three criteria which are shown in Figure 3.

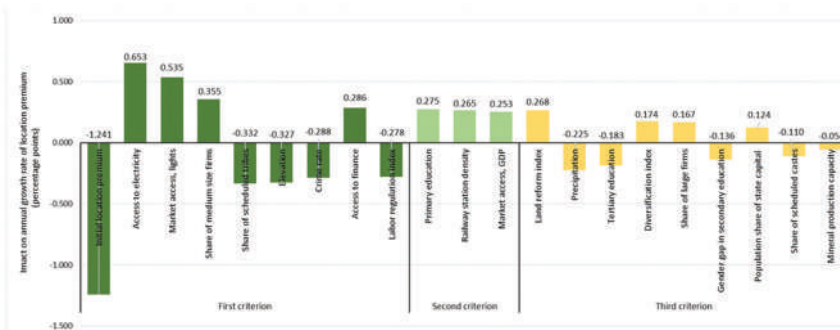


Figure 3: Fundamentals: boost the drivers of rapid economic growth.

Source: State Diverge, Cities Converge; Drivers of Local Growth Catch-up in India, World Bank.

- The speaker suggested a series of policy prescriptions to overcome the employment challenges; among others macroeconomic stability, flexible labour policies, widespread social protection and understanding job challenges are required (Refer Figure 3).

4. Dr. Rajani Gupte

Vice Chancellor, Symbiosis International University, Pune



- Dr. Rajani Gupte, the Vice Chancellor, gave the closing remarks for the inaugural track and mentioned the 67 crores young Indians who represent the demographic dividend that India enjoys. She cautioned that this dividend needs to be nurtured through right kind of skilling and education.
- She thanked Dr. Martin for his wonderful exposition and further highlighted the relevance of the focus of the World Bank on poverty reduction and how labour earnings are helping in declining of poverty, as well as his analysis about jobs and demographic dividend which has provided everyone with deep insights.
- Dr. Gupte pointed out the importance of policy implications of women at work, social spill overs, and existence of complex labour laws.
- Dr. Gupte mentioned that the audience is indeed privileged to have so many speakers from all over the country talking about variety of issues pertaining to jobs and employment.
- At the end, she suggested some rethinking and research is needed to understand the technological advancement which would take place in India and its impact on the labour force. The ageing population in Europe and Japan allows them to have technological innovations because the technological innovations are used to replace the labour. However, with respect to India, which is a labour-rich country, she suggested that we should find an alternative way in which the nation can enjoy the fruits of technology, yet make sure that it has enough jobs. Technology should be adopted as per India's needs and specifications.

Track 1

Challenges in Employment Statistics

Chairperson: Dr. Radhicka Kapoor

Senior Fellow, Indian Council for Research on International
Economic Relations, New Delhi

Concept Note

Jobs creation has always been a key priority of a welfare state and the success of different economic policies is also assessed on the fact that how many jobs are created by these policies. It is therefore imperative that a strong database for employment statistics is required for any welfare state. In the Indian context, it has been widely discussed that India suffers from a lack of comprehensive and real-time data on employment despite the fact that there are several sources of data on labour force in the country.

Recognizing these facts, the Government of India appointed a Task Force for improving employment data in India on May 11, 2017 under the chairmanship of Vice Chairman, NITI Aayog. The task force has recommended three changes with respect to household data sources: (i) conduct household surveys on an annual basis, (ii) introduce a time-use survey and (iii) progressively introduce the use of technology that can speed up data collection and reduce the time lags between data collection and processing. The task force has observed an acute need to strengthen sources of enterprise and establishment level data. To accomplish this, an Annual Enterprise Survey using Goods and Service Tax Network (GSTN) as the Sample Frame, Economic Census at Regular Intervals, Annual Survey of Enterprises Excluded from the GSTN, and Higher Frequency Survey of Enterprises are suggested. Collection of data on certain category of workers from a number of sources [Employee Provident Fund Organization (EPFO) database, Employee State Insurance (ESI) database, and National Pension Scheme (NPS) database] are also suggested. The Ministry of Statistics and Programme Implementation, New Delhi brought the first release of employment related statistics in formal sector in April 2018 covering the

The knowledge partner for this track: ICRIER



period from September 2017 to February 2018, using information of the number of subscribers who have availed benefits under the above schemes. According to information provided by these schemes, three million new jobs were created in the above period. However, this number seems to be overestimated because many workers from the unorganized sector have recently joined EPFO due to incentives from the centre. Another criticism is that the above sources provide information on employment in organized sector only, whereas unorganized sector still plays a critical role in India's employment sector.

FECO 2019 makes an attempt to discuss each of the above recommendations in details so that a robust database for employment statistics could be created in India. ICRIER, a Delhi based think tank, has already expressed its concern by highlighting the fact that both frequent employment statistics and insights on the quality of the workforce are equally important. If the focus would be on producing frequent employment statistics, it would certainly be an incomplete exercise. Further, people will be disappointed to assess India's performance in the case of Eighth Sustainable Development Goal which lays emphasis on decent work and economic growth.

- (i) Can India have an annual employment survey?
- (ii) What are the different set of data to interpret the job scenario in the country?
- (iii) What are the challenges and limitations in using the data from the Employees' Provident Fund Organisation (EPFO), Employees' State Insurance Corporation (ESIC), General Provident Fund and National Pension System (NPS), to estimate the number of new jobs created in India?
- (iv) Is India's employment rate as low as it is perceived?

1. Dr. Radhicka Kapoor

Senior Fellow, Indian Council for Research on International
Economic Relations, New Delhi

- Opening up the session, the speaker highlighted the importance of comprehensive employment data, which should be reliable and accurate. It was highlighted that employment statistics are key inputs in designing macro-economic policies and meaningful policy responses. Unfortunately, today the stage of employment is unprecedented and we are not just facing unemployment crisis but also unemployment data crisis.
- She spoke about the Task Force Committee set up by government in May 2017, to review India's employment data architecture and suggest improvements. One of the objective behind setting up this committee was to generate high frequency data and one of the recommendation by the task force is to do away with the National Sample Survey Organization's (NSSO) household survey and replace it with periodic labour force survey (PLFS). The PLFS is required to provide data at all India-level annually and quarterly estimates for urban areas. The first PLFS was conducted in the year



2017-18 and the data is not released by government yet. This undermines the autonomy of our various statistical institutions.

- In addition to the recommendation of removal of NSSO surveys, the task force also recommended that administrative data could be used for this purpose. From last year, the government has been releasing the pay-roll data centered on EPFO database.
- Release of this data has created many debates among economists, as the question is whether enrolment on the Employment Provident Fund Organization (EPFO) does show creation of new jobs and the answer is not clear. EPFO data pertains only to the formal sector and, therefore, do not show the picture of employment scenario. The task force did not say much in the context of informal sector.
- She emphasized on the household surveys, which are reliable to study labour market in a country like India where the market is dualistic in nature. However, the last official NSSO survey was released in the year 2011-12. In the meantime, Centre for Monitoring Indian Economy (CMIE) started producing household survey since 2016 with sample size larger than NSSO. It actually gives us a sense of employment-unemployment increase or decrease trends which are similar to PLFS.
- Highlighting the issue of quality jobs, the speaker pointed out that India lacks data on productive and well-paid jobs. So the speaker suggested for leveraging employment statistics to get a better idea of what is happening to jobs quality.
- The speaker highlighted some other issues, which were not discussed in the report by the task force. These are: high frequency employment data, weekly or monthly, collected by periodic labour survey and low or declining female labour force participation rate. So how can our employment statistics better capture economic activities undertaken by women. Additionally, we need to look at how to capture involvement in multiple activities.

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- The speaker concluded the address by emphasising on using technology to reduce the time- gap between collecting, assessing and disseminating reliable and accurate employment estimates.

2. Prof. Ajit Kumar Ghose

Institute for Human Development, New Delhi



- Prof. Ghose began by raising many relevant questions related to the employment statistics. These include: what do we need them for and what are we trying to understand or get knowledge of and then in this context, we can analyse whether the data is inadequate and what can be done.
- Further, unemployment rate as provided by employment statistics is the real problem. As the unemployment rate from employment statistics does not analyse the occupation which is leading to the unemployment. This is the major problem concerning unemployment statistics in India. The other problem is that there are many types of employment such as self-employment and casual employment in which lot of work sharing happens. In a sense that many people work part-time; hence there is more than one person working on it full-time. So the problem in this case is how can we have employment rate and deduce the condition.
- The speaker pointed out that NSSO survey was used to collect all kinds of data, but the data was not optimally utilised. For example, we cannot get much information from looking at the data, since nature of employment and unemployment has still not changed. In this context, the employment or unemployment rate can be very useful but we have to be very careful while interpreting them. The rising unemployment caused due to increase in unemployment for educated youth, suggests us the mismatch in employment sector but it does not tell much about the whole economy. Similarly, if the employment rate declines, it means that there are more discouraged workers and this is evident when it comes to women participation rate falling.

- It has been discussed that non-availability of high frequency data is becoming a constraint in formulating policies. While clearing out the misunderstandings regarding the topic, the speaker said that high frequency data is desired but not much has been stated about how policy making will be done using this data. The speaker, therefore, posed a question – suppose unemployment rate has increased in the last quarter exactly what will be the policy response? Actually, there is an unstated assumption behind it, that employment and unemployment is because of ineffective management.
- Prof. Ghose stressed on the need for coming out with annual surveys of services just like the annual surveys of industries.
- He further stated that the current weekly status is used as a parameter to check employment or unemployment status of an individual. This is the standard method, which has been followed in most of the countries including developed ones. In a developed economy, we could expect that if a person has worked for one-hour then could have worked whole week because most people are in regular jobs. However, in India this is not true. If you have worked for one-hour, then you have just worked for one-hour in that entire week and there is no guarantee that you worked longer than that and that's why usual status also becomes important. Therefore, we need to have both in the NSSO survey.
- In the case of female labour force participation, there are problems in judging and distinguishing what is household work and what is productive or economically meaningful work, as it is termed. The declining rate of female labour force participation may be due to cultural factors, and patriarch society which are relevant in the present day.
- Finally, the speaker highlighted the impact of technology on employment but the real difficulty, he said, comes from supply-side i.e. technology coming in and factory jobs are being reduced/substituted. On the demand-side, due to technology the productivity rise, if demand remains the same, employment is expected to decline. The question is when productivity rises, will demand increase; this is not a data question but more of a macroeconomic question. It has been taken as granted that all kinds of jobs will come up and ultimately we will not have jobs problem but types of jobs problem. But it is not that clear unless the demand side is understood.

3. Mr. Mahesh Vyas

Managing Director and CEO, Centre for Monitoring Indian Economy, Mumbai

- The speaker started his address by highlighting the challenges of employment statistics in India. For example, the data of January 2019 tells us a different story than data collected this week, which shows employment data is extremely dynamic in nature. Three broad challenges have been mentioned by the speaker and they are: (i) lack sufficient official data (the official data comes so late that it is of no use, except academics), (ii) delay in conducting household survey and (iii) delay in releasing the results.

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- While there is no enterprise survey, delay in household survey and inadequate and infrequent release of the results, the EPFO data was to be used as job data and some backhand calculations were carried out and referred to as job creation data. This is counter-productive and diminishes the credibility of government statistics.
- The speaker is of the view that there is a need to rebuild the credibility of independent statistics institutions. Despite credible CMIE data on employment, there is still need for official government data. The government data has to be strengthened and more resources should be devoted to collect them. Every country in the world has NSSO kind of institution, we do need one, independent of what CMIE does. For example, CMIE collects data on private companies which is an alternate to ASI data but that does not mean we should not conduct and refer to the ASI.
- Highlighting CMIE household survey, he pointed out that CMIE has built large household survey of 1,72,000 households. It is highly technology-driven process, validated in real-time so the moment the data is collected and uploaded, the data gets validated right there and the release of data is automatic. So this is fast frequency data, CMIE releases data on employment every day and many people find use for it.
- Consumer Pyramid Household Survey is now a tried and tested method which has been functional for the last four-five years. It is a panel survey of 172,000 households, and CMIE surveyors repeatedly go to the same households, the panel increases at small rate 1.5-2% per annum and the size of the household also from new areas are increased from time to time. Nearly 1500 households are sampled daily. The survey is organized such that CMIE gets a fair representation of rural and urban households every day. Further, the sample distribution over the 16 weeks of execution is designed to ensure each day is captured, which enables us to make a broad statement on employment and unemployment in the country. On a weekly basis it is a good sample of 10,500 households, and the monthly sample of households stood at 43,000, which are good enough to give sound estimation at state-

level. It is conducted in three continuous and on-going waves every year: Jan-April, May-Aug and Sept-Dec, and therefore the process never stops.

- In January 2016, CMIE added the question ‘are you employed today’ after doing a pilot study. Presently, the status of members who are 15+ years old of the household, we get four statuses or classification: employed, unemployed willing to work and actively looking for jobs, willing to work and not actively looking for jobs and person who is clearly out of the labour force and says not even willing to work. For agricultural labourers or workers who are paid on the daily basis, the question asked is ‘did you have a job yesterday’. So the status of people who are employed is very clear and there is no ambiguity, there is no recall period, and questions such as number of working hours is not asked. As per CMIE, the unemployed people are of the second category who are currently unemployed but actively looking for jobs. There are a lot of and significant variations in the monthly data and we need to take cognizance of it.
- CMIE is planning to add few more questions so that the nature and other details of employment and unemployment can be understood. These questions will be related to salary, occupation, industry, homework, and re-joining the labour force if left.
- The speaker recommended that the focus should be on the current daily status than usual status as the Indian economy is changing dramatically, even with respect to gig economy we need to look into daily status. Fast frequency will enable to carry out the daily status. It can help in analysing the impacts of policies and shocks better. Additionally, employment and unemployment rates should go into macro-economic understanding and there is a need to focus on quick enterprise survey rather than taking long time and keep on expanding it. We need to bring in fast frequency data and still do quinquennial surveys conducted by NSSO, as it adds value and depth.

4. Dr. Amit Basole

Associate Professor, Azim Premji University, Bangalore

- Dr. Basole informed about the project ‘State of Working in India’ undertaken by the Centre of Sustainable Employment under Azim Premji University. He clarified that the unavailability of data was the main challenge faced by the project team.
- He highlighted that there is a need to understand each type of data and there should be enough debate about its utilisation. He highlighted that volume, variety and velocity are the strong points of big data and reliability is an issue of administration of the data. Another issue is self-selection and not randomly selected; therefore the coverage is also incomplete. For example, jobs created by mudra loans give a sectoral picture and not a picture of the whole economy. Over privacy, constraints of accessibility compared to household data which is publicly accessible are of concerns related to big data generated by private institutions.



- The survey data, if it is properly carried out especially by using random selection, assures net picture of the economy, compared to sectoral ones that gives a wide range of information about each household. The survey data should be available to public cheaply and anybody can use them. These are the up-sides and the downside of the survey data is that the frequency is often low, no matter how fast you do it. It is not going to be like administrative or big data because it involves people and talking to them comprehensively. The issues of reliability in survey data, if properly conducted, can show you what is done but it is definitely not immune from biased contributors.
- He said that concepts related to women employment defined by various economists who worked with National Accounts need to be used as apparatus and deployed in the surveys. There is some sort of arbitrariness in these definitions too, as they consider livestock and producing milk for home consumption as productive jobs for women, while taking care of children at home is not. Therefore, there is a need to re-work on these definitions and concepts.
- Further, the speaker said that it is difficult to capture the real picture when irregular employment and data is involved. India is doing badly in terms of assessing skills of the population. He pointed out to the fact that in India, the status of skills is unknown and then it is said that we are not skilling people appropriately. NSSO surveys do a good job in other contexts but perform poorly in the matter of skills. If we take face value i.e. no training, then 80-90% of the Indian labour force does not have any training. We are actually not capturing what people are learning, from where they are learning, if they are not going to colleges or not enrolling in organisations for training.
- Political concern in India is more about poverty and not employment. The speaker pointed out that low wages is the economic issues of political significance. Similarly, unemployment rate is the economic issue of political

significance in India despite the fact that the number does not represent majority of the workforce. The rise in unemployment therefore suggests that India is failing to reap its demographic dividend.

- From the supply side the rise in unemployment is due to a rise in educated workforce, withdrawal of public sector employment and falling employment elasticity in private sector.
- Demand-side factors such as issues like caste discrimination and patriarchy are responsible for rise in unemployment. The speaker highlighted the reason why he discussed about caste, is that – the lower caste people are willing to get out of traditional work, acquire education and receive a white-collar job. On the other hand, upper castes are not willing to move to the work that will require to work with hands. Labour market is the outcome of these moves and choices people are making. We have not created a situation where vocational trained job is well-paid and respected in the society, instead we created pressure to earn degrees to get jobs.

Track 2

Productivity, Technology and Innovation

Chairperson: Mr. Pradeep Bhargava
President, MCCIA, Pune

Concept Note

Knowledge (Science), innovation, and technology are key drivers of economic growth and social well-being. Science and innovation bring technological change, which, in turn, leads to productivity growth. All these finally contribute to economic growth and social well-being. Knowledge upgradation and innovation come from research and development. Therefore, investment in R&D needs to be promoted. In India, the gross expenditure on R&D (GERD) has shown a consistently increasing trend over the years. GERD has doubled in the last decade in real. However, India's spending on R&D (about 0.6 percent of GDP) is well below that in major nations such as the US (2.8), China (2.1), Israel (4.3) and Korea (4.2). The pattern of funding is also unique in India because it is dominated by the public sector. However, the private sector plays a significant role in providing the fund for R&D in the above countries.

Research and Development is one aspect of discussions of FECO 2019, while it also focuses on its role in employment creation. The unprecedented technological transformations from mobile and cloud computing to machine learning taking place today, has resulted in inception of Industry 4.0 era, the fourth industrial revolution. Industry will assuredly be benefited from the above technological transformation. But, here a big concern being 'how will it impact the employment sector'. It is mainly due to a strong belief that new technologies destroy jobs in some industries, especially among the low-skilled, while creating jobs which are often in different industries and require different skills. 'Whether the employment sector is going to be benefited from these emerging technologies and what are the threats to, and opportunities for the

The knowledge partner for this track: CTIER

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sector' are important questions, particularly in the case of India which is going through several social and economic transformations. Recently, the Government of India has taken a number of actions to improve the business environment in the country. It clearly reflects from India's improved ranking in Ease of Doing Business, 2018 prepared by the World Bank. For the first time ever, India has jumped 30 positions to become the top 100th country in terms of ease of doing business ranking this year. Like technology, business environment has significant and positive impact on productivity. Therefore, the above improved situation of Indian in ease of doing business will help to enhance productivity in the country. This leads us to pose certain questions:

- (i) Will the Ease of Doing Business in India encourage higher levels of investments resulting in additional employment opportunities?
- (ii) Have technological advancements led to job losses or job creation in India?
- (iii) Has India's R&D activity resulted in employment growth post 1991?

1. Mr. Pradeep Bhargava

President, MCCIA, Pune



- The speaker began with expressing the importance of the session where he suggested that by raising the curtain, the issues pertaining to the topic of 'Productivity, Technology and Innovation', were also raised. Besides diagnosing problems in employment due to technology, innovation and productivity, he urged the panellists to come up with the solutions, which will create an environment and inputs for the policy makers as well as industrialists to bring inclusive, sustainable, economic growth and development.
- He shared his experience of working in the manufacturing industry over four decades, which included employment oriented, national and international level public and private sectors and the consumer sector – Business-to-Business service (B2B) and Business-to-Consumer (B2C) markets, and worked in both, high and low tech oriented. Productivity and technology

have always been a part of life but the word innovation is of recent origin. Earlier, words such as development, research, and revolution were more frequently used. These have been replaced by words such as innovation, incubation and start-ups. He also shared the difference between business models now and that in the past – now the innovators first look at Initial Public Offering (IPO), in the past they used to create Intellectual Property Right (IPR).

- He argued that technology, productivity and development have been the points of discussions in conferences for decades. How these concerns help in growth and development, social and national security, enhancing the human index, ethics and income distribution, have been deliberated upon to a point of redundancy. However, the drivers of change in context, that affect employment, have not been considered with the same enthusiasm. Historically, the nature of this problem is fairly complex, but it was hardly taken into consideration as number of jobs generated with the help of technology were more than the jobs that replaced humans.
- In recent times, we have discovered that technology, innovation and productivity do create employment of certain kind but with Artificial Intelligence (AI) and automation the number of people being displaced is more and we need to take cognizance of this fact.
- Underlined political ideologies have driven the discussions on jobs and employment. Another great concern is jobless growth. The ILO has worked on the future of jobs but the bigger crisis is getting the right kind of intelligence on the situation.
- Jobs need to be examined through the larger context of “rojgar” since youngsters are looking for highly paid jobs now and many of them are not interested in Provident Fund or gratuity or are not much bothered about the savings. Many of them are not looking for permanent jobs. He concluded that it is high time that we take cognizance of these facts as they are going to determine the employment patterns by and large.

2. Prof. Smita Srinivas

Technological Change Lab and Economics Department, The Open University UK; Science, Technology, Engineering and Public Policy, University College London

- The speaker commenced by explaining the conceptual framework of economics used and required for analyzing the technological advancements. In India, for discussing innovation, old theories of economics are used and there is no or less attention being paid to the recent theories. A point to be noted here is that there have been a lot of changes in the economics over the three decades where the focus of the theories has been the technological evolution.
- She stated that there exists no such model which assumes linear relationship between productivity, technology and innovation. History of technology



says learning is very messy and long term, and takes place in a complex environment. The challenge has been that the model, which we use to inform policy discourse in India, has been quite conservative. Cross comparative indicators of innovation, many of which are quite old and conservative in many aspects, come from traditional policy of science and technology. This does not capture the picture of learning.

- She gave an example of a linear model prepared by Vannevar Bush which showed that there is a linear relationship between pure science and economic value. This model is stuck now, but economists and statisticians reuse the model for traditional indicators of investment. In reality, there are business models which use both pure science and economics and they cannot be categorised in either high-tech or low-tech model. For example, Jaipur foot, also known as the Jaipur Leg, is a rubber-based prosthetic leg for people with below-knee amputations. It is inexpensive and widely acceptable as a prosthesis, and as a result has been widely used in India. This kind of innovations do not fall into the traditional bucket of indicators. Moreover, non-linear relationship in pure science and economic value can be found in neonatal incubators; air or water pollution mitigation; new energy storage; vaccines; diagnostics; 3-D prototyping; construction materials; precision farming techniques, germplasm; oil and gas extraction and supply innovation; prosthetics; and transport systems. From political economy standpoint, only one in six has influenced or shaped economics of India's learning and work policies.
- Karl Marx disproportionately influenced the debate, which means despite the richness of the models, it is not a learning based framework. Therefore, Marxian and the extension of New-Marxian models can take us a certain distance but the complications require the Schumpeterian model. Many economists have tried to understand the variety, which has some evolutionary characteristics. Attention should be given to the variety, institutions or organisational change over time and there must be some matrix to measure it. So cross-country studies become important.

- Schumpeterian business cycle is not a class based business model but a stake-holder based which has many permutations and combinations of the public and private sector and in order to understand if diversity among public and private sector is included in the business model certain questions such as, who extracts the rents or how these rents become negotiable and so on need to be reviewed. The growth theory of the firm usually captures the industrial growth or inter-sectoral growth but does not cover the kind of work performed within the sector. Therefore, for capturing the growth better-way and understanding positive and negative elements of firm's growth, variety of work within firm and sector should also be captured. Schumpeterian model is quite in a utopian way as it is only related to the entrepreneur; if it has to be the evolutionary model then all the stakeholders of the firm should be connected to the growth story of the firm.
- She explained the 'four Cs' of evolution which are Cross-country convergence, Cohesion, Customization and Cognition. Cross-country convergence can be helpful from the policy formulation point of view; cohesion needs to be looked at the inter-industry or intra-industry levels of differences; customization should be utilized to understand local level problems and should be designed as per the demand policy; lastly, there is a need to take cognizance of the nature of framing the problem and accordingly the solutions.
- In conclusion, she suggested that education and research initiatives should work towards building the depth in disciplines and professions and for this purpose institutes should encourage demonstration of the research work or project, and also give some kind of rewards for experimentation, as well as failure. It would help in linking closely to experimental methods, training, and practical knowledge. Many more demonstration and research-incubation-teaching efforts are needed. Redesign of some monitoring and evaluation of projects and fiscal transfers would also help.

3. Mr. Janak Nabar

CEO, Centre for Technology, Innovation and Economic Research, Pune

- The speaker referred to the handbook of technology and innovation in India, which includes traditional indicators. India has set up a goal of increasing the contribution of the manufacturing sector to 25% of Gross Domestic Product (GDP). Another goal India has been chasing hard is to increase the expenditure on Research and Development (R&D) as a per cent of GDP. The goal is to increase the expenditure up to two per cent of GDP but India is presently stuck in the range of 0.7-0.9% for nearly three decades. One of the major reasons behind the struggle is that private sector does not spend enough on R&D and innovation in India.
- Centre for Technology, Innovation and Economic Research undertook an exercise with 290 firms in India where these companies were required to



spend R&D as per global standards and government ministries were to keep aside some amount of money for R&D. Despite these efforts the goal of spending 2% of GDP on R&D looks illusive now. Therefore, there is a need of new looks, perspective and thinking in terms of sectoral opportunities.

- He analysed the structure of R&D in India where he found that there is a heavy concentration of R&D in pharmaceuticals, biotechnology, automobile and parts, but almost none in electronics and hardware. Another perspective he utilized was sector-wise global industrial R&D expenditure and country-wise number of firms in 2016 where concentration was seen in pharmaceuticals, automobiles, computer services but was found lacking in technology development, electronics, or even healthcare instruments.
- He suggested that opportunities of R&D expenditure by key scientific agencies under Government of India needs to be leveraged. Given the demand for healthcare, potential of R&D in this sector is huge; as such it can address the following challenges such as preferences of private healthcare over public, high diagnostic costs and the debate of preventive v/s curative.
- Presence of large number of multinational corporations (MNCs) in India should be leveraged in terms of technology research and development. It could be a potential opportunity to develop sectors such as electrical engineering and hardware.
- India is the third largest contributor to publication of electronic and electrical engineering sector. Industry-academia linkages are very low in this area, so universities in collaboration with MNCs can train the individuals who are likely to join the labour market. Further, in order to make local firms part of the global value chain, MNCs can be helpful. It will also increase our competitiveness and employment. Start-up sectors attracting funding in Indian e-commerce, consumer retail, have very little linkages with the manufacturing sector. This is creating jobs but the concern is sustainability of these start-ups in the service sector. He strongly recommended that India needs to create stronger linkages and environment for manufacturing sector.

4. Dr. Sunil Mani

Director, Centre for Development Studies, Trivandrum, Kerala



- The speaker had written a paper on ‘Industrial Robots and Manufacturing Employment in India’ and he discussed the point, which motivated him to write the paper. He called it a “robot apocalypse”, where automation is replacing human resources. It was initially discussed in the US but now the time has come that developing countries such as China and India also start paying attention to it. He referred to research by other authors regarding the same topic and mentioned a research paper by Autor and Salomons (2018)¹ in which they have used the Acemoglu and Restrepo methodology (2017; 2018) which showed that automation has not been labour displacing but has reduced wage share in the value added.
- He also spoke about the Indian context, wherein he mentioned that in 2013 there was an influential paper published from the Oxford Martin School, which talked about the future of employment as a difficult phase since 69% of jobs in India, were going to be automated. India is expecting to increase the percentage share of the manufacturing sector to GDP at the time when manufacturing across the world is being automated and that is not good news for India in terms of employment to be created from manufacturing routes.
- The speaker prominently stressed on the point that statements on the issue of replacement of labour due to automation are based on impressions and speculations and, therefore, he has analysed automation and employment with the help of data. Economists have been pointing out from the NSSO data that labour intensity of India’s manufacturing sector has been reducing;

¹ Autor, D. and Salomons, A. (2018). Is automation labour-displacing? Productivity growth, employment, and the labour share. Brookings Publication on Economic Activity, 1, 1-72. Retrieved from https://www.brookings.edu/wp-content/uploads/2018/03/1_autorsalomons.pdf

labour intensive sectors are becoming capital intensive over time; though the economy is growing but not enough jobs are being produced. Therefore, he focused on whether automation and technology are going to reduce employment in the future. In automation, he discussed a range of technologies and not homogenous ones, which have varied impact on employment and on the robots who can actually replace labours.

- Many studies have shown that automation of plant reduces cost of production significantly, considering the stage and level of development of a country. Further, automation technology is becoming cheaper, and therefore in the days to come it is possible for an MSME to buy a robot and start using it for production. Therefore, we can expect a large-scale shift to automation in future. AI has also been upgraded which enables it to perform numerous tasks.
- As per the study by Kenneth Flam in 1988, robots in Western Europe, USA, and Japan were particularly and heavily used in the automotive industry and then moved to other industries, for instance electronics. There are tasks/jobs where cognitive skills are not required, and in such tasks robots can easily replace humans. In the automotive industry it is found that robots were particularly used for welding, especially in arc² and spot³ welding which are human unfriendly and hazardous. The robots were also used for painting the products.
- The Annual Survey of International Federation of Robotics is the only organisation, which looks into operational robots and their tasks within industry across countries over a long period. There is a sharp increase in the sale of robots after the global financial crisis of 2008. The geographic concentration of the world automotive industry shifted to Asia. Therefore, there is a continuous increase in the robots used. China is the largest user of robots as per 2016 data. A small country like Thailand has been using robots on a large scale and has gradually become the capital of automotive sector of Southeast Asia. In India also, the use of robots has increased phenomenally. The automotive industry is the largest user of robots in India, as well. The speaker was of the opinion that the “robot story” is a story of the automotive sector as per the industry-wise stock of robots.
- To study its impact on employment, the speaker analysed the density of employment i.e. for every 10,000 labour force, how many robots were actually being used. He found that the world average is around 69 and the same for India’s is only 10 at present. The point to be noted here is that within the automotive industry in India, the density is much higher i.e. 54 robots

² Arc welding processes involve using the concentrated heat of an electric arc to join metal materials together.

³ Spot welding is used for joining overlapping sheet metals in projects where strength and durability are not pressing concerns. Copper electrodes hold the work pieces together with force and an electrical current heats them to welding temperature.

per 10,000 labourers. For example, TATA motors uses industrial robotics and automation for production. Reports reveal that the production force in TATA motors came down by 20%. At the same time, its turnover increased by 250%. In a single plant in Pune, TATA is said to have installed 100 robots. Task-wise the robots do the same things in India, as in the USA, Western Europe and Japan, robots are used in arc and spot welding.

- He concluded by saying that the idea that robots are taking away jobs, is a myth and it is not based on data but rather on impression and speculations. He also forewarned that the picture, however, might change in the future as robotic technology is developing very fast.

5. Dr. Rakesh Basant

Professor, Indian Institute of Management, Ahmedabad



- The speaker focused on the aspect that University-Industry Linkages (UILs) are useful for understanding the nature and growth of employment. Industrial growth has been decent but productivity in industry has not grown rapidly but has stagnated in recent years. Growth has not been labour absorbing. Low growth of efficiencies of input use as well as low labour absorption can potentially result from inappropriate technology choices and low technology effort by industry and inadequacy of available skills from the education system adding to training costs for industry. Therefore, it is required to comprehend the complex linkages between the education policies and use of technology by the industries. It can be done through strengthening the University-Industry Linkages.
- As per the recent data, growth of total productivity of factors has been negative in the last two-three years. Higher education and industry are linked such that higher education institutes can train workers, supply research, and generate new knowledge. The newly created knowledge can create enterprises, and most importantly, they provide skilled labour used by the industry. The industries supply goods and services, 'teachers of practice' and

knowledge, source of funding and start-up support, changes in curriculum and demand for skilled labour to educational institutes.

- A high tech firm in an urban area uses a labour with a graduation degree or above and 76.8% of them do not have a technical education. If one takes all industries together, 93% of them have no technical skills. Only 16% of graduates are employed in all industries taken together. There are two kinds of skills broadly – firstly for monotonous tasks and the other one where you have to develop something new or innovative to deal with complex problem. The education system is not providing skills as well as not doing research or giving higher skills. Less than 4% of total R&D is carried out at higher education institutions, and the remaining bulk (of 70%) is done by the public sector.
- He also stated that the University-Industry Linkages remains limited to the labour market due to the low research intensity of private industries. Industry finds skills imparted by educational institutions inappropriate or inadequate. Absence of large multi-disciplinary universities and broad based education is imparted and creates gaps in entrepreneurial skills. Educational institutes are creating low levels of knowledge, research, or enterprise. Industry is not getting engaged in curriculum, nor interacting with the higher education system.
- As per the premise of the speaker, the reason behind the issues is the separation of research and teaching resulting in failure of low-end and high-end skills. The speaker suggested that people in the educational institutes and organisations should be incentivised to do more research oriented work and also streamline the research in teaching. A possible solution could be a cluster of higher education institutes in a location to stimulate multi-disciplinary pursuits. If a policy can facilitate these institutes to come together, it will enable the generation of skills at the higher-end to give off higher productivity.

Track 3

Informal Economy Concerns: Contributions and Challenges for the Future

Chairperson: Dr. Alakh N. Sharma

Director, Institute for Human Development, New Delhi

Concept Note

The term informal sector was first conceptually framed in the 1970s through the pioneering work of Keith Hart on migrants in Ghana. These labour seekers could not be absorbed into the formal wage-based economy and had to resort to a wide range of informal activities for livelihoods. This characterization of the informal economy continues to hold true to-date across the developing world and even in parts of the industrialized West. In India, the bulk of employment falls under the informal sector. As per the National Commission for Enterprises in the Unorganised Sector (NCEUS), over ninety percent of employment in India falls under the informal.

The informal segments of the economy are characterized by their heterogeneity of forms and structures, serving as a refuge for the vast majority of the poorly educated and unskilled. The 'informal economy' also serves as an umbrella term for occupations and enterprises that remain beyond the purview of the state. This gives rise to problems of definition and classification. How to differentiate this large monolith and create appropriate segmentations? Given the lack of any formal registration or tax returns, informal labour activities may be labelled as illegal or constituting the black economy. But this is not always the case. The informal labour forms have also been described synonymously as the unorganised, given that workers' organisation is typically associated with formal or wage driven employment. However, there have been several successful attempts at the grassroots in India to organise the unorganised:

The knowledge partner for this track: IHD

SEWA in Ahmedabad and the Hamal Panchayat in Pune are notable examples. Previously, the informal economy was defined solely through the lens of the enterprises that were beyond regulation; this restrictive definition has been expanded to cover employment relationships as well. The broad segmentation of informal labour forms now includes self-employed workers, home-based workers, contributing family labour, and contractual labour among others.

Is the informal economy here-to-stay? Concerns over lack of regulations abound in the informal, and abuse of labour is perceived to be widespread. Bearing this in mind, governments across the world have attempted to upgrade the informal sector activities and formalize them. They have been guided by the ILO framework of poverty reduction through promotion of decent work. However, these interventions have not always yielded the desired results and the informal economy has continued to persist. Moreover, with the decline of wage employment through processes of deregulation and flexibilization of labour, the informal economy has increased in its scope.

In the backdrop, this session will address some key questions on the informal economy:

- (i) How do we gauge the size and importance of the informal sectors in the economy?
- (ii) In what ways is the informal intertwined with the formal sectors in the economy?
- (iii) How can we create an outline or roadmap of transition for formalization of the informal such that it will be less disruptive of livelihoods?
- (iv) How can goals pertaining to decent work and improved standard of living be extended to the informal?

Undoubtedly, the answers to these questions will help understand the future course of the informal economy and the possible range of policy options required for future support.

1. Dr. Alakh N. Sharma

Director, Institute for Human Development, New Delhi

- As the Chairperson for the session and the Director of IHD, one of the knowledge partners for the conference, Dr. Sharma expressed his gratitude to Symbiosis for initiating and organising such a timely conference on employment.
- Prof. Sharma initiated the session by acknowledging the high incidence of the informal sector in urban areas. As mentioned by Arthur Lewis in his theory on unlimited supply of labour, the labour force gets transferred from subsistence sector to modern sector. This process will continue till the wages rise above the subsistence sector. Many countries have witnessed this process of development. Many people also believe that China, especially Eastern China, has experienced this process. Most of the developed countries have not experienced this kind of transition. In India, 93% of total employment



is in the informal sector whereas in China it contributes only 30%. India has one of the highest incidences of informal unemployment.

- The definition of informal sector differs across countries. International Labour Organization (ILO) largely defines informal sector as all unincorporated enterprises or households as the sites of production. In India, the definition of informal sector and employment covers all unincorporated enterprises below 10 workers as per the Factory Act, 1948 or other Acts covering sectoral aspects of manufacturing. It also includes all unincorporated enterprises where the workers do not have any social security benefits getting accrued from the employer.
- In India, we identify informal sector largely as own-account workers, wherein, around 50% of workers are self-employed, 30-32% are wage or casual workers and 18% are regular workers. Adding to the complication, all regular workers are not formal workers.
- From the definition, it can be understood that informal sector is extremely heterogeneous. Occupational forms such as street hawkers, vendors and coolies belong to informal sector. At the same time, some self-employed yet highly paid professionals such as doctors and lawyers are also part of the informal sector. It has been estimated that in India, around one-third of the informal workers are not poor. Some part of this sector is dynamic also because of its export demand. As suggested by Prof. Sharma, this part of the informal sectors deserves to be studied separately.
- Prof. Sharma suggested that changing technology will affect informal sector and employment. For example, the gig economy is not so developed in India compared to the developed nations. But it has become difficult to decide whether an employee in the gig economy is a wage worker or self-employed. Uber and Ola are some examples fitting into this fuzziness. They are not guided by any regulations; they do not follow the Minimum Wages

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Act - this is a new phenomenon of labour participation. In the future, this pattern is going to become more pronounced.

2. Dr. Arup Mitra

Director General, National Institute for Labour Research and Development, New Delhi



- Prof. Mitra addressed three important aspects of the informal economy. First, the contractualisation and ancillarisation of the economy, leading to an expansion of the informal segments. Second, the segregation of the demand driven and supply led factors integral to the growth of the informal economy. Third, the emerging linkages between the formal and informal, which will help understand the segments of the informal which are likely to grow in the years to come.
- Prof. Mitra spoke about the informal sector and the changes that have taken place within this sector. One of the representations of informal sector in 1970s and late 1980s was through the labour of the working poor. The concept has undergone a tremendous evolution and many new insights have been developed.
- It is argued that if economic growth is taking place in the formal sector, naturally through subcontracting, wages in informal sector are supposed to rise. This should lead to poverty reduction. Using NSSO data, it was observed that over 70% of the workforce in the rural areas and over 60% in urban areas were engaged in informal sector. The criticism is that household workers have not been included in this estimate. Naturally, if they are included, the estimates would be much higher.
- Moving ahead, Prof. Mitra spoke of new literature on the informal economy that has been discussing how urbanization is inducing demand component of the informal sector. The issue is whether the linkages between the formal and

informal sectors are strengthening and poverty is actually getting reduced. In this backdrop, the Asian Development Bank (ADB) had initiated a study for both India and China titled 'Elephants and Dragons', where Prof. Mitra was commissioned to assess the impact of urbanization on informal sector. As per the findings of the study, urbanization and informal sector employment does not show any specific relation. Across states with low, high and medium levels of urbanization, informal sector employment was high.

- Further, Prof. Mitra studied the decomposition of informal sector in terms of supply push and demand induced components. The hypothesis of the study was that the informal sector can grow in the situation when the formal sector is growing rapidly, sluggishly or is stagnant. So informal sector employment is a function of formal sector. In order to explain how much employment in informal sector can be explained by the formal sector, they prepared a frontier. Higher the distance from the frontier, higher is the excess supply of labour in the informal sector. Given this condition, they worked out an index across states for two different years 1999-2000 and 2004-2005. It was found that Mizoram is the state with the highest excess supply of labour. With this benchmark, the rest of states were indexed.
- Additionally, they also studied other aspects such as migration, poverty, informal sector employment from NSSO data and socio-economic and demographic information from the population census 2011. The variable analysis shows that higher rural-urban literacy tends to raise the migration rate. The percentage of Scheduled Castes (SC) in the population also has a positive impact on migration rate supporting the view that the disadvantaged section migrates in order to escape their vulnerabilities and improve their lives. Migration reduces both rural and urban poverty. Higher urbanization and growth of rural and urban areas is positively associated with migration suggesting that people are more likely to migrate to remain in the labour markets. This situation is more prevalent in states which are more urbanized than others. Migration, informal sector employment and the incidence of Scheduled Castes population are all positively connected with each other and this incidence is accompanied by the decline in the poverty in nominal terms in both rural and urban areas.
- Urbanization takes the highest factor loading and is associated positively with the percentage of rural and urban workforce engaged in non-household (HH) manufacturing and services. At the same time, urbanization is negatively related to rural and urban poverty. Urbanization has positive spill-overs when it comes to the growth and employment of informal sector. Through this complex analysis, the indirect effects of urbanization on informal sector employment can be observed. In his model, Prof. Mitra draws upon cross sectional data and makes use of rural to urban migration rate, informal sector employment and urban poverty as the endogenous variables. The results of the model show that migration and informal sector employment are closely connected. Migrants do not necessarily move out for jobs in the

formal sector. Even the possibility to work in the informal sector induces population mobility across states. Further, there is a possibility of declining rural and urban poverty as upward mobility takes place within the informal sector.

- Another point emphasised by Prof. Mitra is the importance of networks in migration when a person wants to enter urban informal sector. Those who are able to diversify their networks are the ones who have experienced upward mobility. If network concentration exists along the lines of caste, they are not able to diversify their network and there is no upward mobility.
- While analysing the enterprise data survey of NSSO, two important hypotheses were put forth. First, to what extent do rural and urban clusterization take place simultaneously so that convergence can be observed? Second, will the lack of manufacturing clusterization translate into services clusterization? Keeping these points in mind, patterns were analysed at the state-levels. No convergence was found between rural and urban clusters.
- As a broader inference, the growing dynamism of informal sector implies that it is possible to reduce poverty even when it is not matched or connected with the formal sector. At the same time, where there are linkages between formal and informal sector, the advantages of such linkages do not trickle down.

3. Dr. Ravi Srivastava

Director, Center for Employment, Institute for Human Development,
New Delhi



- Prof. Srivastava mapped out the labour markets of developing countries where more self-employed, part-time, multiple, non-stagnant employment can be found. What does this mean for the challenge of employment in the future? Before we address the challenges of it, it is necessary to understand the kind of economy we are visualizing.

- Reema Nanavati from Self Employed Women's Association (SEWA) served as the Commissioner of ILO team which prepared a report on the future of jobs. As pointed out by her, the discourse was focused on northern countries and the organised sector, with very little discussion about the unorganised sector. Prof. Srivastava spoke of his collaboration with her in producing a series of papers on what the future of jobs would look like in a country like India predominated by the unorganised sector. In the talk, he focused on the retail and construction sectors, which are of importance globally and in India. These sectors are dominated by the unorganised sector in terms of the share of employment.
- In the case of India, sometimes it is not appreciably noticed that the production structure straddles all successive industrial revolutions. The use of traditional technology still persists alongside the most modern technology. Half of our workforce continues to be in agriculture. In India, 66.4% of non-agricultural enterprises are own account enterprises, nearly 84% of the work is in unorganised sector enterprises and 93% workers are informally employed. Among heads of operating enterprises, 40% are illiterate, and one-third with primary and middle-level education. Among farmers who are also producers, 54% were illiterate. Among all incorporated enterprises, 2.2% use old computers and 1% use internet. From the employers' perspective, this is the situation into which technological changes are to intervene.
- According to Prof. Srivastava, citing from ILO data, retail and construction sectors are major avenues of employment globally. Globally, the construction sector contributes 3-9% of employment, and retail sector contributes 12-24%. However, as underscored by him, the structure of retail is very different across countries. In many countries, retail continues to be dominated by small enterprises. This is the sector where enormous changes are taking place in terms of organisation structure, enterprise type and nature of work. Physical retail is being constantly downsized almost everywhere. Changes are being spurred by digital growth and newer waves of technologies. However, the impact differs significantly due to industrial attributes, socio-economic attributes of consumers, government policies and regulations. The resulting changes cannot be visualised in a uniform manner and at least for the present, there is no evidence of significant decline in aggregate retail employment.
- Construction is a more complex sector, comprising civil engineers and workers. This sector consumes 15% of global steel production. Significant changes are taking place in construction; off-site production has increased the use of IR technology. Despite these changes, there is still not much change in the level of aggregate employment by the sector. Low penetration of modern technology is because of the fragmented nature of the industry and sub-contracting, which is widely observed in India.
- Construction sector in India employed 50 million workers while retail employed 40 million workers, with women constituting 12-15% in construction sector. Based on projections for the next 5-10 years, the share

of organised players will continue to grow in the construction sector. The impacts of technological changes differ in nature and extent across the two sectors. For example, the employment elasticity in retail sector has been declining over period of time. The trend is certainly more pronounced in urban areas in recent period. As far as construction is concerned, the employment elasticity has been more or less static and productivity has been stagnant. Changing technology will cater to growing employment. Absorption of modern technology in construction is limited because of outsourcing and fragmented industry in India.

- To conclude, construction and retail have been important sectors absorbing agricultural labour seeking to move to non-farm employment. Therefore, these two sectors are of particular importance from an employment perspective. Modern technological changes are not going to have major impact on these sectors but employment growth rate of construction will slowdown in the future. This will pose a major challenge of employment. Which are the new sectors which can absorb the workers from agriculture where productivity is not rising and income differentials are high? This is an important question to address for understanding the future transformations of employment in the country.
- At the same time, we should visualize different futures for these two sectors with respect to introduction of modern technology. In retail, across many countries, linkages are being forged between local producers and retail networks, thereby framing the retail sector from a bottom-up approach. In construction also, we can think of low cost, environment-friendly technology, which can be more decentralised, more labour absorbing. We need policies which are environment-friendly, labour friendly and will facilitate the training of workers such that they can participate in the future transformations of jobs.

4. Dr. Jeemol Unni

Head, Department of Economics, Ahmedabad University, Ahmedabad

- Prof. Unni addressed two important issues in her paper. First, the growth of informal enterprises, the characteristics of these firms and the factors enabling them to expand. Second, the gender differences in the expansion of the informal enterprises in the present institutional eco-system.
- Prof. Unni spoke about statistics on employment using economic census data (which is an enterprise based data) and NSSO's informal enterprise survey in 2009-10 and 2011-12. The survey data underestimates both enterprises and number of workers. As she pointed out, a labour force survey always gives a much better estimate of participation in the informal sector.
- In a previous session, Prof. Raja had mentioned of the extreme vulnerability of own account workers and unpaid family workers. To add, as she mentioned, the casual workers and contract workers are equally vulnerable. Some of the informal enterprises are expanding while others are at subsistence level. To



sweepingly categorise workers across all of them as being vulnerable does not do justice to the dynamism of the informal sector.

- The economic census data of 1998, 2005 and 2013 show the number of enterprises and own account enterprises. Therefore, it is vital to understand that informal sector consists not only of own account enterprises but also self-employment enterprises which hire workers. In 2013, of the estimated 58.2 million total enterprises in India, 80% were own account enterprises.
- When the growth of total enterprises is observed, the growth rate of the non-agriculture enterprises from 2005 to 2013 has been higher. Manufacturing has been the sector where own account enterprises are growing. In services, sectors such as hotels and transport have been growing in terms of enterprises at a faster rate during the period 2005-2013. Overall, there has been a growth of informal enterprises.
- In the manufacturing sector, many enterprises work from home. 57% of own account enterprises in manufacturing sector are within the homes – for example, shops or hotels which are extensions of the house. This also translated in informal employment. In such own account enterprises, the scale of operation is very small, with value of fixed assets being less than Rs. 5000. As per NSSO's survey, 84-93% are own account enterprises. The growth of established enterprises is high; this means that there are enterprises which operate on large scale. Own account enterprises working with house premises constitute 53%. Therefore, they can be a great source of employment if some sort of help or assistance is given to them. About 30% of the enterprises stated that they were expanding, while 45% of them stated that they were contracting in both 2010-11 and 2015-16. Among the own account enterprises, all of them are not at subsistence level.
- There were some interesting observations regarding the caste-based differences in terms of expansion of own account enterprises. The upper

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caste proprietary enterprises were less likely to expand, perhaps because it is a secondary activity for the household.

- Talking of gender differentiation, female own account enterprises were smaller than the male owned ones. However, a quarter of the female owned ones were still witnessing expansion.
- On a concluding note, Prof. Unni spoke of three factors leading to the expansion of own account enterprises: the use of the internet, registration with statutory authorities and government assistance.

Track 4

Labour Reforms and Employment

Chairperson: Dr. Rajat Kathuria

CEO, Indian Council for Research on International Economic Relations, New Delhi

Concept Note

Rigid labour laws are found as barrier in generating employment in many developing countries including India. Mitra (2015)¹ has shown that restrictive labour laws have slowed down the growth of labour-intensive industries, restricted their average firm size, and the proportion of large and medium-size firms relative to small ones. It is, therefore, not surprising that while employment in the apparel industry in India is concentrated in firms employing less than nine workers each, China's apparel production is concentrated in firms employing more than 2,000 workers.

There are currently approximately 200 labour laws in India, of which 52 are central acts. There has been a large debate over the years, which calls for the second generation reforms in India which will work towards interventions resulting in flexible 'labour market'. The flexibility will give autonomy to employer in the sense that they can hire and fire workers at will. But, there should also be some safeguards to protect employees' interests. Therefore, making labour laws friendly for both employer and employee is a great challenge for policy makers. India has taken some steps by rationalizing 38 Central Labour Acts by framing relevant provisions of existing laws into four labour codes viz. Code on Wages, Code on Safety and Working Conditions, Code on Industrial Relations, and Code on Social Security and Welfare. This initiative is expected to remove the multiplicity of definitions and authorities leading to ease of compliance without compromising wage security and social security

¹ Mitra, D. (2015). India's labour laws: Protecting to hurt. Retrieved from Ideas for India: <https://www.ideasforindia.in/topics/macroeconomics/indias-labour-laws-protecting-to-hurt.html>

The knowledge partner for this track: ICRIER



to the workers. Several technology enabled services i.e. ShramSuvidha Portal, Universal Account Number, etc. have also been introduced in order to bring transparency and accountability for better enforcement of the labour laws.

FECO 2019, will attempt to see the following key questions relevant for liberalizing labour market.

- (i) What are initiatives taken in recent years in India for liberalizing labour market?
- (ii) Whether or not these initiatives are in right direction of labour reforms and if so, to what extent are they effective in employment generation and protecting employee's social security?
- (iii) Do labour reforms play significant role in the success of 'Make in India' campaign?
- (iv) What are additional reforms required in India, given the current employment framework and the demographic dividend of the country?

1. Dr. Rajat Kathuria

CEO, Indian Council for Research on International Economic Relations, New Delhi



- The speaker started his discussion by questioning the conceptual association between labour reforms and employment. Looking at the status of employment in the Indian and global context, he has specified that the economic growth and employment or jobs have not grown at the same pace which means elasticity of employment has been very low with respect to growth across the globe. Specifically, for India, elasticity of employment with respect to growth has been low, thereby resulting in jobless growth.
- In the process of transition from agriculture to manufacturing and to services, India has been experiencing re-energising its manufacturing sector, with the 'Make in India' campaign. This has been initiated with the objective to take advantage of its labour intensive manufacturing, especially for women, following the experience of Bangladesh, Vietnam and, Cambodia.
- Further, the speaker highlighted two important points regarding the job creation in India. Firstly, the association between employment and growth

can be considered as a market failure if there exist externalities from job creation. There can be social impacts or cohesion along with employment generation and therefore, in such cases, government needs to intervene in terms of pro-growth or pro-employment policies.

- Secondly, it is important to mention the urbanization as the stylized fact of employment in India, because the cities are the engines of the growth. Infrastructure and connectivity enables cities to grow faster, wherein urban planning plays an important role. Therefore, urbanization policy would ultimately have an effect on employment generation. Unfortunately, cities in India have not been able to create those jobs, because India is less urbanized compared to other countries across the world.
- Dr. Kathuria raised questions on the impact of government intervention – with respect to (i) why firms remain small in India? (ii) why India has not been able to create labour intensive jobs like China? The answers to these questions according to him, was because Indian labour laws have been accused of being pro-workers and not pro-job creation. The policies protect the workers who were already in jobs and this constitutes only 5-7% of the total labour force. Hence, there is a need to find an optimum solution between pro-growth policies and pro-workers policies in India.
- He pointed out, how with changing technology market dynamics will definitely experience a change. The speaker cited the noted economist Arvind Subramanian, who stated that Indian manufacturing sector has moved from the situation of socialism to marketism without allowing them to exit. India did not experience Schumpeterian way of change in the economy. It did not allow firms to exit from the industry because of socialist school of thought. Therefore, the dynamism that the industrial sector should have experienced, did not occur. Due to the strict labour laws, firms deter coming into the market even if there were opportunities to enter which has created a gap in growth pattern.
- Further, there are data issues which are controversial as well as polarising.
- Labour laws with respect to employment is an extremely important subject in India given the demographics and the challenge to create productive jobs. There is an urgent need for government intervention in this regard.

2. Dr. Aditya Bhattacharjea

Professor, Delhi School of Economics, New Delhi

- The speaker highlighted the issue of regulation in labour market with the current socio-political situation and stated that this will remain a vital issue. He presented a revised version of his 2006 paper, “Labour Market Flexibility in Indian Industry”.¹

¹ Bhattacharjea, A. (2006). Labour market regulation and industrial performance in India: A critical review of the empirical evidence. *Indian Journal of Labour Economics*, 49(2), 211-232, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=954908



- He criticised the methodology which was used to evaluate the status of labour market.
- This paper offered a critique of an estimation method, viz., Besley-Burgess (Quarterly Journal of Economics, 2004)² analysis of effects of inter-state differences in Industrial Disputes Act (IDA) amendments. It begins with a review of earlier studies that tried to infer the effects on manufacturing employment of amendments made by the central government to the IDA in 1976 and 1982, requiring official permission for layoffs, retrenchments and closures.
- The widely-used index of state-level labour regulation devised by Besley and Burgess (QJE, 2004) has been criticised for its miscoding of individual amendments and its misleading aggregation and cumulation procedures. Besley-Burgess index showed the variety of adverse effects on 'pro-worker' amendment which were over-protective about labour laws on Indian industries. It has diverted output and employment to the unorganized sector and encouraged labour unrest as well.
- The speaker specified measurement error in the BB process which are as follows. Several state amendments coded by BB index process are misinterpreted, irrelevant, or had only transient differential effects, and therefore were given wrong scores. They are all given equal weight regardless of importance. On the basis of such amendments, Gujarat and Maharashtra turn out to be pro-worker, Kerala pro-employer. However, some later authors addressed this anomaly. Very few of the amendments (esp. after deleting wrong or irrelevant ones) affected Chapter V (B) of the IDA, the BB index does not really measure 'flexibility', 'employment protection', or 'firing costs'. Apart from that, a number of variables have been omitted which were likely to affect firms. Further an important determinant – choice of

² Timothy Besley and Robin Burgess (2004). Can Labor Regulation Hinder Economic Performance? Evidence from India. *The Quarterly Journal of Economics*, 119(1), 91–134, <https://doi.org/10.1162/003355304772839533>

location – was not considered. The coefficient on the BB index becomes insignificant if state-specific time trends were included in the regression.

- Dr. Bhattacharjea mentioned that the states that amended in pro-worker direction, suffered adverse consequences. For example, reduction in employment, investment, productivity and elasticity of demand along with increased capital intensity which controls industry specific factors. Further, a trend in labour market was observed, that nudged to outsourcing the work to the contractor rather than hiring them directly in the factory. This would give them the firm protection and coverage from IDA and has diverted the output and employment to the unorganised or informal sector. It has encouraged laziness of the labour and decreased the pace of poverty alleviation. So the formidable adverse effect, attributed to excessively pro-worker regulations, wherein such regulations which were required to support the labour ended up working against them. Because it reduced employment, productivity and it had impact on wages. On the other hand, the states that had amended pro-employer and anti-worker laws worked out more favourably for workers.
- In the old and the upcoming paper, the speaker has challenged literature, questioning both in terms of the measurement of this index and econometric analysis of this index which employs the exogenous variables supposedly to explain all these adverse effects. He further highlighted some of the criticisms which are: in terms of the measurement problems, all these papers which have used this index never referred to the text of the IDA, wherein, there is a list of the amendments in states for which the ± 1 , score of +1 for pro-worker and -1 for pro-employer; they have got it totally wrong and in some situations it is a case of misinterpretation. On the other hand, in some cases, they have taken amendments which are irrelevant to the manufacturing - for example, they have taken amendments which have affected construction or the mining sector, but all their variables are concerned with the organised manufacturing sector. Therefore, those amendments should have been disregarded.
- Further, they have taken amendments which are passed by states first and then a year or two later, central government passed the same amendment with few changes in the wording. In terms of the econometrics, some states were used as treatment states and others were controlled states, but if the treatment or the difference between the states was erased in year or two they again cannot be referred to as exploited variables. So he inferred that many of them were totally wrong. All these amendments were scored on the same scale ± 1 regardless of their relative importance. Famous pro-worker amendment the chapter 5 (B) of the IDA, requires government permission to close down a factory that is given a +1 score. Procedural amendment in 1969, Gujarat passed an amendment which required a factory to have joint worker-management council and posed a charge of Rs 50 as a fine on a factory, that did not comply with the amendment. Therefore, the scores were given for different kinds of amendments which made the index fairly meaningless.

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- He also claimed that among all the amendments, the key amendments affecting chapter 5 of the IDA were only 15 out of 113 and these were miscoded or irrelevant. Therefore, it would be very difficult to state that the index measures the labour market flexibility or employment protection. There is indeed a need of codification in the estimation process.

3. Dr. Jaivir Singh

Professor, Jawaharlal Nehru University, New Delhi



- The speaker given the topic and discussion preferred to do a polemical exercise. The reforms that had actually taken place resulted into two situations, one is the threshold in the states of Rajasthan, Gujrat and Madhya Pradesh which has moved due to industrial dispute act. These movements have pushed more and more workers outside the coverage of the laws. In addition to this, a series of Supreme Court judgements particularly what has been referred as Steel Authority judgement, have ensured that if employer has contract labour working in the government department comes in and abolishes that labour, in such a situation, there is no obligation to employ that labour. Thus such labour has nowhere else to go. Post this judgement, there has been an enormous jump in the number of contract labourers employed. Therefore, it is only through reforms, that the workers can be stopped from moving outside the framework of the formal laws.
- The speaker highlighted the dire need to prepare an appropriate economic model which can be used for labour market in India, where the transaction costs should be linked to the opportunism with respect to specific investments. Ex-ante contracts cannot be taken up because of infeasibility of writing such incomplete contracts. For example, a worker decides to take certain kind of education so that the employer can hire him in future; those kinds of contracts are almost impossible. On the contrary, in the ex-post model, long-term

relationship between education and job can be considered. These have been missed out in various kinds of ways for the informal labour market. There is a way in which one will invest in a job, or undergo education when he or she is assured that employer is investing and he or she can quit the job when they want and similarly the employers can throw him or her out when they approach something like retirement. In a certain sense, this incomplete contract model asks for some kind of tenure and without the incentive of this tenure, ex-ante or previous investment in human capital is not there.

- In Rudrapur, an industrial cluster was identified, wherein contract labourers were taken by a trade union, which actually supported the contract workers. They have set up an agreement with the employers in which it was agreed that till the age of 59 the contract workers will not be thrown out. As a result, the productivity has gone up enormously. This is anecdotal.
- Towards the end of his discussion, the speaker brought forth the view that through Skill India national policy on skill development – no worker will go through training, unless there is some security of tenure for a few years. For example, in the countries where there is apprenticeship, there is some opportunity for the workers to join the company or there should be some anticipation that they will be absorbed for at least some time. Without secured tenure, investment in skills and improvements in human capital are not going to take place.

4. Prof. K.R. Shyam Sundar

Professor, HRMA, XLRI, Xavier School of Management, Jamshedpur



- The speaker began with a strong need for clarifying a common perception that labour has nothing to reform but the reform is required for labour laws and governance mechanisms.
- He stated that there is a need to be technically correct and in that context, explained the neo-classical argument that employment protection leads to unemployment; therefore, there is a call of extensive labour law reforms

so that employment investment will come in, resulting in employment generation. Further, he highlighted how labour institutions make a benevolent difference. It is now the time when there is a dire need of the labour laws as neo-liberal form of globalisation that seeks to transfer control of economic factors to the private sector from the public sector will progress.

- Prof. Sundar highlighted a school of thought which states that if the government brings in the reforms in the economy, it will lead to incentivise firms to become formal, investment will increase, informal firms will get formalised, leading to more employment and income generation and industrial and economic progress will eventually lead to poverty alleviation. Therefore, this kind of argument has been put forth by political establishments, irrespective of the party in power, at the centre or state at the cost of labour laws and reforms.
- He articulated the classification of labour laws and reforms which have been broadly classified into reforms for organised and the unorganised sectors. The labour market reforms for organised sector should be systematic, codifying laws and then there are hard core reforms which are altering Chapter V (B), or any threshold which will push people out of employment or push people from formal employment to informal employment i.e. hard reforms. The soft reforms are governance reforms which are procedural efficiency or e-registers and all such kinds of things. Hard reforms in the unorganised sector are social security, assistance and insurance in a wider sense.
- Further, he pointed out to the two types of reforms, one pertains to employers and the other to the workers or trade unions. As for the procedural reforms, various acts have been changed and there are substantive hard reforms of wages and labour. The procedure reforms could be to extend wage threshold so that more and more workers are covered under the act like Employee State Insurance Act (ESI) and Employee Provident Fund Act (EPF). The substantive reforms will be raising the minimum wages. Recent report on minimum wages act says that minimum wages should be Rs 375 per day. This is the functional classification which could be helpful for further analysis.
- It was further pointed out that labour law reforms are political in nature because they incur costs and the will, in taking unpopular approach. Therefore, whenever labour laws are discussed it results in massive labour mobilisation. It has been seen that around 18 country-wide strikes have taken place for the period from 1992-2019. Unorganised sector workers have been protesting for social security. There were micro-level strikes where several CEOs and HR managers have been killed or beaten up. According to the political economy, although amending laws (Chapter V B) reforms strategy is the subject of the central government, these reform mandates have been shifted to state government as it would involve huge political costs. It has been observed that till date, nine state governments have reformed and amended Chapter V (B), and made it applicable to firms or establishment with more than 100 workers to 300 workers or more and also the contract

labourers to narrow the threshold of application. As political complexities are more at regional-level, hard reforms have been shifted to state-level.

- Further, many of the reforms have been taken place at firm level, for example many big companies like TATA Steel and Mahindra & Mahindra have reduced the share of permanent workers to the total workers in different ways and they have increased the share of temporary workers, contract workers and non-statutory trainees.
- There exists non-action of reforms or sluggishness or in other words, as per the minimum wages act, the wages should be revised at least once in five years whereas the special allowance or dearness allowance will get revised every six months. However, what is observed is that most state governments do not reconstitute the boards. Therefore, minimum wages are not revised as regularly as they should have. As a result, some kind of flexibility of institutional sluggishness or non-action is observed in the system. This has resulted in an increase in the number of contract workers over the reform years as per Annual Survey of Industries (ASI), which highlights the information given by the employers. The speaker pointed out the absence of employment data, which therefore makes it difficult to capture the real picture.
- Gender sensitive labour laws are also important as more and more women labour force participation is utmost necessary. The measures that have been undertaken are allowing women in the night shifts in the service sector, according to the Modern Shop Act -2016. Maharashtra has amended its shop act in 2018, to allow the women employees to work in the shops and establishments subject to some safeguarding measures. The Information Technology (IT) sector has been following it all along. Tamil Nadu, Maharashtra, Uttar Pradesh and Haryana allowed women in the night shifts, in last three to four years. The maternity benefits paid leave has been extended to 26 weeks from 12 weeks, all in the name of attracting women into labour force participation and making it easier for women.
- The speaker shared some of the findings of the Team Lease report, which states that the maternity benefit have had short-term negative effect. Many start up, small employers pointed out that it is costly to hire women employees with paid longest maternity leave provided in the world. All employers who employ more than 50 workers, must have a crèche, and this is found to be a high cost item for the management. The measure to enhance women employment has dramatic negative effects. The employers do not want to back the reforms cost, they want it to be shifted to the workers, or the government. The central government, therefore came up with a proposal that they will pay a part of the maternity benefit i.e. four weeks of maternity benefit will be paid from the budget to the employers. This is the political economy aspect. Another aspect highlighted is that the development commissioners have been made in-charge of the Special Economic Zones (SEZ), and such personnel are non-technical persons and regular inspection

has been abolished for these zones. The impact on employment can be observed from the following analysis, out of 222 SEZs operating units, only 1/3rd or 1/4th belong to the manufacturing sector. So all these amendments pertaining to manufacturing sector do not apply to SEZ and shops and commercial establishment act, which is applicable as per the state law. Factories Act and IDA are hard laws, they apply to the manufacturing sector whereas the service sector is governed by shops establishment act, which is a soft law. So the SEZ if at all, they have created employment they would not be because of labour concessions, but because of the economic concessions as applicable. Also there cannot be a closure of a firm in the SEZ as there is an arrangement to resale the firm to another interested party.

- ‘Inspector Raj’ which has been equated with ‘License Raj’, really boosted industrial growth. While removal of the ‘Inspector Raj’ could improve managerial efficiency, but does not lead to employment generation. Another possibility is that informal firms may not want to become a formal firm because of ‘Inspector Raj’. The speaker further argued that reforms for formal sector will not work due to fear of opposition, and reforms for informal sector i.e. universal minimum wage, social security will not happen due to fiscal implications. Therefore, the virtual reality of implementation is that the status quo remains. In reality, the expected benefits of labour market reforms are much less certain than those that will be derived from product market reforms. Therefore, there is a policy ambiguity. Labour reforms must be radical enough to incentivise employment expansion which is not politically acceptable. Failures of reforms or executions of reforms both will lead to informality.

5. Dr. Rahul Sapkal

Assistant Professor, National Law School of Maharashtra, Mumbai

- The speaker addressed some effects of the reforms of the labour laws which has been rolled out by the state. The employment effects categorise into two types, first is forcing them to formalise or bring them under law or legal ambit. Secondly, actually putting down soft economic reforms so that there is a certain net effect into the employment.
- Dr. Sakpal informed the audience about a step taken by Government of India ‘Shram Suvidha¹’ to comply major central labour laws. As per the speaker, there are two types of net effects: one which is happening at Employment Provident Fund (EPF) level and the other is the expansion of provident fund. However, the question arises, whether the expansion of provident fund can be regarded as an indicator of employment reforms or not. Then there is ‘Pradhan Mantri Rojgar Protsahan Yojana’, where employees provident fund data is linked with labour market outcomes. The contributions to

¹ Shram Suvidha acts as the umbrella under which 16 major central labour laws will be put together on one particular platform, so that compliance with all central labour laws could be made easy.



Employment Provident Fund Organization (EPFO) is borne by the state government. It has a net effect but results in a huge fiscal cost which accounts for around Rs 2000 crores for very short-term benefits.

- The net employment is calculated on the basis of information given by a company through Electronic Compliance Report (ECR). It can be observed that every quarter a sharp increase can be observed. The speaker highlighted three particular notes: Nov 2017, March 2018, Nov 2018 where a peak i.e. highest net employment reported by EPFO data for two particular reasons: Firstly, compliance with Shram Suvidha has increased, which happens quarterly and secondly, Goods and Services Tax (GST) compliance make these companies file a return and that's how this employment generation data goes up. So it shows the political and cyclical nature of data collected by EPFO and hence not a good indicator of employment generation.
- In the last 18 months, EPFO have published the pay-roll data, where net employment effect is the indicator. It should be noticed that how many new establishments have been reported in this pay-roll data, according to EPFO. There is a gradual decline in actual reporting and submitting their ECR to the government. It means that the reforms undertaken by government to increase the periphery of EPFO have not been really benefitting the firms. The speaker provided the estimation of average of the new companies who are reporting the employment generated. On an average new companies state 112 employments is created over a period of time. Again Nov 2017, March 2018, and Nov 2018 have the peak figures. So we should be very careful while interpreting this data.
- As factory size increases, more and more contractual workers are employed. These contract workers do not necessarily receive the same wages and benefits as the regular workers. Therefore, pro-worker labour laws are very important, in order to minimise the average real wage differential between contract worker and regular worker in rigid and non-rigid states. He claimed that if the state is categorised as a rigid state which has the most pro-worker labour reforms, real wage difference between contract worker and regular worker is minimum. The pro-labour reforms support both the regular as well as contract workers and additionally, the collective bargaining is also promoted which helps workers to raise their voice.

- He has explained the impact of the reforms at the end by highlighting the World Bank Enterprise Survey 2017 which states that only five per cent of firms considered the labour reforms as a major constraint along with other constraints like finance, corruption etc. If firms in labour intensive sectors find the compliance with labour laws difficult then few questions arise which require due attention from the Government before undertaking labour law reforms. The questions that need to be addressed are as follows, one, why other factors in the World Bank report are more important than labour regulations; second, why procedural reform has been persuaded aggressively; and, why reforms for labour administration are neglected. In order to change the status quo and implement the labour laws which incentivise employment expansion, the holistic picture of the labour laws and their impacts should be examined.

Track 5

Education, Skill Development and Employment

Chairperson: Dr. Vidya Yeravdekar

Pro Chancellor, Symbiosis International University, Pune

Concept Note

Skill development is the prerogative of the schooling systems. Through the engagement with education, students are expected to imbibe the set of tangible and intangible skills that could be transferred to sites of employment. However, this linkage is fraught with problems in India. As the PRATHAM ASER reports have amply demonstrated over the years, schooling in India is plagued with learning deficits. Even as students move up the education ladder, they fail to perform tasks meant for the earlier rungs. As generic examples, students in Class VII fail to read basic language texts or perform numeric problems meant for Class IV and so forth. These deficits continue through the educational trajectories of the students and even further.

Given the constraints of the educational systems in providing clear channels of employment, what is the recourse for the youth? How can the state intervene in the problem? What kind of policies can be instituted to increase employability? As per a World Bank feature story on 'Skilling India', "more than 12 million youth between 15 and 29 years of age are expected to enter India's labour force every year for the next two decades. The government's recent skill gap analysis concludes that by 2022, another 109 million or so skilled workers will be needed in the 24 key sectors of the economy". Presently, it is estimated that less than five percent of the working population in India has received formal skill training. This is where skill development programmes come into the frame. They are meant to provide income-oriented skills, thereby serving as a catalyst for employment and entrepreneurship.

The knowledge partners for this track: SIU and ASEF



In recent years, the Government of India has laid particular emphasis on skill development. In 2014, the Ministry of Skill Development and Entrepreneurship (MSDE) was created as the overarching body for such initiatives. The Government has also launched two key programmes viz. the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) under the MSDE and the Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDUGKY) under the Ministry of Rural Development – both oriented towards improving livelihood options. A newer regime of skill certifications is being ushered in, where the youth shall be imparted industry relevant training and soft skills such that they could be assimilated into the job markets.

In this backdrop, it is envisaged that the track seeks to address the following questions. What can be done to improve skill development through the educational track and equip students for the job markets? How to improve the scale and scope of industrial training institutions? What role do skill development programmes play in securing livelihoods and bridging the gap between education and employment? On a practical note, how to design and deliver these modules of skill development, what should be the eligibility criteria for the parties involved in framing these courses? How to monitor the quality of training and the vocational skills imparted? How to reach out to the relevant audience and to select across them? In a reflexive way, rather than having separate institutions for implementing the skill development mandate, can we potentially incorporate them into our regular educational curricula? The answers to these questions can shed light on the complexities of the education-employment linkages in India.

In this theme, the speakers will attempt to address the following questions:

- (i) Is the education sector doing justice with its twin roles of knowledge and job creation?
- (i) What challenges are being faced by the education sector in the backdrop of the globally changing scenarios?
- (i) Are schools sufficiently equipping students for the job markets?
- (i) Is a national policy on skill development the need of the hour, such that industry requirements can be prioritized and a talent pool developed accordingly?
- (i) In what way are these initiatives bridging the gap between education and employment?

1. Dr. Vidya Yeravdekar

Pro Chancellor, Symbiosis International University, Pune

- The Pro Chancellor and Chair of the session, Dr. Vidya Yeravdekar discussed about skill development, education and employment. She pointed out that academicians across the globe working in the domain of higher education are presently thinking about universities of the future. The pertinent questions at this juncture is about what kind of education should be imparted to students which translates to potential employment opportunities to students. Equally



important is the question about the kind of jobs the industry would generate and therefore universities are to prepare the students for future jobs. It is imperative that the gap between education and employability needs to be addressed.

- Dr. Yeravdekar stated that a country like India, by 2020 will be home to +1.35 billion people out of which 906 million will belong to working age. Therefore, there is a great challenge with a billion plus population that will live distinctly in different segments of India; the developed, emerging and the under-served.
- In order to prepare the workforce for this new and changing order of society, requires rethinking of the traditional education model. Presently India's challenges are immense with its 672 million young population with 50% of them in the working age group. Jobs have to be created, to gainfully employ 100 million youths who will join the labour market. It is not just about creating jobs within India but projections indicate that the developed world will have a shortfall of almost 56 million in the workforce by 2030, and India can fill this gap to a large extent. As per the FICCI and E&Y analysis, by 2030 one fourth of the labour force will be graduating from India and will join the global workforce. To leverage this opportunity India needs to work on skills which can make the youth globally competitive.
- Dr. Yeravdekar suggested that in this era of Industry 4.0, the exponential changes with technology disruption, the present-day education system needs to be changed. Therefore, there is a need to look at new approaches which could play a significant role in the transformation of higher education. Universities of the future should be prepared for the unprecedented challenges as well as innovations like technological advancements. More and more countries are moving towards the knowledge economy model of development. Universities have to outgrow the traditional model with higher education becoming more integrated into the economy and the community at large. It is therefore an idea whose time has come, the time to

rethink the education model due to the disruption of the new technologies. As mobilisation and technological advancements move rapidly, education policy must encourage active leadership in this regard.

- A study on future projections of higher education also suggests that technological advancement is an important factor and indeed has a very forceful impact. Technology will continue to shape and reshape the process of higher education and universities must be prepared for technology enabled future. Therefore, the speaker reiterated that Symbiosis International (Deemed University) is looking at various ways to integrate technology in its academic delivery, be it as a combination of Massive Open Online Courses (MOOCs) and traditional classroom teaching wherein, Education 4.0 is a response to Industry 4.0 and places the students at the centre of the higher education system. The 21st century intelligent technologies are disrupting the process of learning and it would accelerate over time. So preparing workforce for this requires rethinking of our higher education model to live in a complex, multi-dimensional society.
- On a concluding note she asserted that higher education plays a pivotal role and this calls for a need for robust universities to support the knowledge economy, as well as provide knowledge which is necessary for social mobility. The contribution of universities to enhance collective welfare will only get strengthened in the future as universities assume leadership roles in creating national and international leaders following the path of peace and cooperation.

2. Mr. Guntars Catlaks

Director, National Centre for Education, Ministry of Education and Science of the Republic of Latvia, Riga, Latvia

- The speaker introduced his country, Latvia as a small north-eastern European country with a population of two million people. He said that it will be difficult to find two countries like India and Latvia who have such large disparities. India is huge with respect to human and natural resources, while Latvia is very small; but there is something very familiar and common between these two countries. It is the future of these two countries which will be created by those who are in the current education system. They will be the people who would contribute in the making of the economy and shaping the politics of the 21st century. This is also a common challenge between countries where many similarities can be found in bringing our societies forward.
- He spoke about education in 21st century in his country, from the future perspective and found many familiarities in Organisation for Economic Co-operation and Development (OECD) and European countries. These countries are undertaking 360 degree reforms that covers general education, vocational education, training, higher education and adult education. He talked about the education in future which needs to be contemporary, and



also contribute to life-long learning. The reforms are necessary at this point because the socio-economic and political situation has radically changed; the change in 21st century is rapid unlike 20th century.

- According to OECD data, 65% of the youth will work in the professions which are not existing today. He reiterated that presently, we have no idea what these professions will be and therefore we should plan and change our mind-set as how to plan the future skills and shape their attitudes. Education thus needs to address, not just professional skills, but overall competencies in whatever the workforce will do in the future. All our reforms in education come from pre-school education to higher education. Competencies come from three categories as stated by OECD data: (i) Knowing what is knowledge as knowledge remains important in the technological age, knowledge becomes more important when information expands. Knowledge is not just about practical knowledge, we need to distinguish between real facts and opinions portrayed as facts. (ii) Skills are important and transitional skills will be required in any kind of job we are going to do in the future. (iii) Attitudes and values are also important. Nothing can be more dangerous than highly skilled person with bad intentions. We want people of future to be both knowledgeable and with right set of attitude and values. So that they can use all their energy in making society, country and this planet a better place to live in for all of us.
- The guiding idea is to make education close to the reality as curriculum and life situations are quite different. Students need to learn from very young age to act, demonstrate environments, ways and fashions as required by the future. The Latvian case is pioneer of reforming education across the OECD countries. Currently, Latvia tops the list of countries which are reforming education.
- The speaker shared that the making of an educational policy is a complex process, which he has had the privilege to experience for more than a

decade. It was highlighted that there are crucial factors involved in the implementation process of education reforms which include: strong political commitment, diplomatic skills in bringing people of different skills, having the right attitude and all these together should most importantly work towards '*making all better-off*'.

- The first reform factor highlighted from the Latvian experience – for the general education reforms - is about identifying strengths and basic knowledge of science, mathematics, technology at all levels of education including curriculum and extra-curricular activities.
- This is followed by laying emphasis on vocational education and training which acts as an appropriate alternative for the students who have not succeeded in acquiring general education and thereby bringing adult education into the mainstream, as well as including labour market requirements and cooperation amongst all stakeholders, bringing together entrepreneurs, business sector, and others from various sectors.
- The reforms required in education system mainly pertain to the enhancement of quality and then to get skills such as problem solving skills, critical thinking and making such connections. The education system should be multi-layered and the design should be such that students can work on various things for long period of time.
- It was highlighted that the Latvian education system goes deep into the aspect of problem solving skills. Greater autonomy is being given to universities and the education system is abolishing strict plans that every day every student needs to follow and study hours of mathematics or music or something else. Latvian education system is opening up curriculum so that schools can organise flexible curriculum and students can give time for deeper learning. This also includes changing the exam systems, as they feel that there is hardly any use of standardized testing, as they believe that one should measure what he/she values.
- Further, the educational system is changing the curriculum by integrating it with all subjects in the first year and then students will specialise and more number of subjects could be added. Vocational education and training was considered to be second rank in the education process as it was meant for those who may not be suited for general education and need to acquire some skills. The vocational training is positioned in the education system as more prestigious than general education. It covers five aspects:
 - (i) vocational training institutes are considered similar to universities, curriculum reform.
 - (ii) A student can acquire general education but a specialization in some module, should be linked to real life situations. This will prepare the students for work with any type of organisations, big or small. The objective is to facilitate learning and working at the same time. This kind of learning is becoming a new reform in vocational education

and training programmes. At the same time, Latvia needs to motivate employers to participate as important stakeholders.

- The speaker pointed out that it is important to discuss about infrastructure, as they are working on all institutional building technologies. An example of Latvia was cited, where they have invested more than 200 million Euros from 2009 to 2019 in building the infrastructure of technical schools or competence centres.
- Knowledge which is not connected to the industries should be changed. It cannot be a situation where education and economy are not connected and in fact needs to closely converge.
- Financing model in Latvia is based on the student enrolment numbers, funding from government and stimulating research i.e. as university does more and more research they will receive more and more funding from the government and finally promoting innovation which in turn will promote development through joint programmes with entrepreneurs.
- The outreach model for Not in Education, Employment and Training (NEET) needs to be enhanced as this poses a demographic challenge. Through policy outreach programme, Latvia tries its best to take care of each person, as human resource is the treasure. They have successfully brought 850 persons back to education. They follow a two-way approach, one is where they directly meet the NEET people face-to-face, through different modes of communications or through social media such as facebook and the other being through the indirect format, wherein intermediaries such as NGOs are involved as important stakeholder in order to leave no one behind.

3. Dr. Vinnie Jauhari

Director, Education Advocacy, Microsoft Corporation India Pvt. Ltd.,
Gurugram

- The speaker shared some thoughts on how to build employability and readiness for the future. She disclosed some actual work we have done at Microsoft while working with schools, communities and higher education institutions. Vinnie mentioned that we are in the middle of digital transformation. There are many disruptive technologies today; IoT, cloud computing, automation and machine learning are disrupting the business models. In the last decade, everyone has witnessed big companies leveraging the innovation, entrepreneurship and technology changes. Example, Uber, Ola, e-commerce companies, manufacturing production. Now there are intelligent cars where pilot experiments are being done on driverless cars; so in every area there is a profound change. Artificial intelligence is becoming a reality today, making machines enable and understand human emotions, looking at competence and information, to be able to take decisions. Few years back, in a company we need not require a specialist in solution of cloud technology, energy auditors, sustainability managers. In a time to



come, when resources are less, with high competition for more storage and space, there is no option but to leverage cloud technology on a large scale. This technological advancement would create newer jobs.

- She said that Microsoft is absolutely passionate about education and the core vision articulated by the leadership in over 100 countries is to empower every student, educator and institution to do more and achieve more. In today's time when things are changing so fast there is no choice other than to be a life-long learner. In order to achieve the same, we need to fundamentally think about how we get educated, how do we create collaborations, how do we move forward in our lives. So the core mission of Microsoft is to empower every single child with 21st century skills, skills of critical thinking, collaboration, problem solving and attention to the details. Digital content, information explosion content is not a challenge today as it is abundantly available but the challenge is what we do with the content available and how to convert it into a skill. It will make a person valuable to be recruited or even start entrepreneurship.
- Microsoft has developed an education transformation framework for digital transformation in education which is not just about hardware and software conversation but it is all about teaching, learning and research. How do we look at curriculum? There is no need to teach 40 subjects; rather teach eight subjects which are interdisciplinary and have research project affiliated with industries. She gave example of the work they have done in their course of hospitality and management which generated global employability for the students.
- She also raised the question as how to create learning spaces and research infrastructure? It has been observed that most of the research fund goes to public institutions and the private institutions struggle for funding;

it's either through self-generation or philanthropic activities or industry sponsorships. Here private universities could see opportunities opened by new technologies; they could start a virtual lab, they could do big data experiments, they can leverage large research infrastructure opportunities through open technology. Today there are wonderful solutions available where we could leapfrog and do big things in lesser amount of time by leveraging the opportunities that exist. It is all about how do we manage our facilities and create secured environment for learning and teaching and also about the entire student lifecycle management.

- The Microsoft programme of education works on number of institutes from primary to higher education. They have NK12 which they call as showcase schools which is also acting as a lighthouse for neighbouring schools. They have innovative educators who not only embrace pedagogical innovations but also reach out to communities and also the educators who have created communities for entrepreneurs. They are powering projects across 100 countries and through sharing, comparing and contrasting experiences they have learnt from the projects. In a year, they have reached out to about 95,000 educators. She gave the example of an educator in Gujarat. In her approach to teach entrepreneurship formally one would do lectures, theories and some practical as well. The said teacher created an online bazar for her students and the students would recycle the material, create products and then market them via online market or face-to-face interventions. Such is the power of ordinary teacher with extraordinary passion and with students ready to give their energies; she raised \$100,000 through this student led intervention and funded 1000 under-privileged girls' education. So the point to be noted here is that these are not conventional programmes, there is innovation, entrepreneurship and skilling in action. Over the 12 years they have trained about 8.5 lakhs teachers across 12 states. The focus of Microsoft is in the domain of higher education as well as on pedagogical innovations. Microsoft have certification for teachers on teaching technologies, and these are globally accredited by UN and UNESCO and it is also recognised worldwide.
- At the end of her discourse, she explained about the Microsoft's specialised programme for higher education where there are tracks which are linked with employability. Linked to the job roles, they have courses that will enable certification after which the person will be viewed as valuable resource by the industry. Opportunities are endless, from certifications to capacity building Microsoft is ready to partner with the institutions.

4. Dr. Santosh Kumar Mehrotra

Professor of Economics, Centre for Informal Sector and Labour Studies, School of Social Sciences, Jawaharlal Nehru University, New Delhi.

- The speaker spoke about the challenges of skill development in India, and he informed that India also faces the challenge of NEET. He has studied



that in 2005 India had 85 million NEETs and the number has grown slowly in 2016 to 105 million NEETs.

- The total number of open unemployed till 2011-12 in non-agricultural jobs were about 10 million, now the NSSO 2017 showed that the amount was 33 million, which is the absolute number of unemployed people. Most of the discussion in the session focused on skills for organised sector; however, perhaps about 78% of all jobs in Indian economy are in the unorganised sector. This is the real challenge for skilling India.
- His presentation included: education level and skill issues in the current labour force, skill ecosystem in our country and international context, quality issues, industry involvement, and policy implications.
- The workforce suffers from very severe problem of lack of appropriate education resulting into educated unemployment. One of the reasons why unemployment is high is because of the sheer quality of unemployment levels. This is true for the general academic level of the labour force. Coming to the skills, less than 0.5% of workforce formally acquired vocational skills or contrast to any of India's competitors like Korea and China where the numbers are in the order of 85-90%. Looking at the status of Indian manufacturing and service sector: it can be seen that in 2015-16 in the manufacturing sector 38% of workforce were with primary or less education, 19% were with less than eight years of education, 32% completed secondary or higher secondary and lastly, only 10% were graduates or more than that. In service sector, 27% had primary or less education, 16% had completed class eighth of schooling, 37% had secondary education and 16% were graduates or more. 95% had no technical education and 93% were with no Vocational Education and Training (VET). Countries of East Asia managed to sustain economic growth of 7-8% per annum for 15-20 years on average primarily because they industrialised and they managed to do it because of industrial policy. They focused on export oriented manufacturing which absorbed workers from labour. Further, they also had general academic

education policy which was aligned to industrial policy. They managed to have higher levels of kids entering vocational education. The very problem Indians have is that they are encouraging students to join higher education after general education and not vocational training, and because of this they are remaining without skills. They need to divert them towards vocational skills and thereafter the programmes.

- In the last 10 years, India managed to ensure high level of universal secondary education, around 85-90% and there has been an upward pressure on higher education system enrolment which grew from 11% in 2016 to 26% in 2017. The problem with such a rapid increase is a dramatic decline in the quality. This does not mean learning levels are high and there are shortages of science, technology, engineering, and mathematics (STEM) teachers at secondary and higher secondary levels. This is partly because in India's tertiary education students study in private vocational colleges, which mushroomed across the country in the arts and social sciences; almost none in agriculture despite the fact that 47% of the labour force is still in agriculture. In fact, 53% of the enrolment in tertiary sector is in social sciences and humanities, while engineering, manufacturing and science is around 39% out of which science is only 5% and which is a serious problem. He argued that if India really wants to create human capital base to become an industrialising country, it has to improve the education standard. Therefore, it is a dire need that public investment as a proportion of GDP, which is less than 4% as of now, should rise. Further, there is a need of an industrial policy and education policy and India should be aligned to it.
- There are two models of skill development globally, Anglo-Saxon and Germanic. India has adopted the Anglo-Saxon model, which has a very narrow interpretation of skills. In the Germanic model skills are a part of occupation i.e. there is a notion that there should be a link between theoretical knowledge and practical implementation plus social identity of the person. The dual education system of the Germans is actually focused on skill development where industries are directly involved and practical knowledge is imparted. Actual work is experienced through apprenticeships. The student does not get certified unless he or she has done on-the-job training.
- There are five pillars of skill development ecosystem: vocational education in secondary or high secondary offers vertical mobility of eight years, vocational training providers get support from National Skill Development Corporation (NSDC) of the Government of India (GoI) and all of them are short-term trainings (three months) with no upward mobility. Similar is the case with industrial training institutes (public and private) which again offer no upward mobility unless trainee does NIOS and lastly very few conduct the enterprise based training by employers. The placement case of the students trained under NSDC is very poor. As per World Bank report 2009, unregistered enterprises do not do vocational training; they do informal apprenticeship. Among the formal organised enterprises only 16% were

offering any enterprise-based in-house training in 2009. The share increased in 2014 but most of them are large firms, like Wipro, Tata, Birla and not the medium ones. Clearly the enterprises themselves are not doing frequent trainings.

There exists a vocational training framework but it has been implemented in shady manner. Unfortunately, the sector skill councils which are affiliated to NSDC have created 10,000 national occupation standards into 2000 qualifications. This situation cannot create the ecosystem or environment where competency-based curriculum can be implemented. This situation needs very urgent attention; foundational skills of our workforce are very weak and the skill ecosystem is not demand-driven. The Anglo-Saxon model should be substituted with German model.

5. Mr. Clement Chauvet

Chief, Skill and Business Development, UNDP India



- The speaker shared his experience of working in India on education for 10 years. Lifelong learning is what India needs but it is very difficult to implement it in India because of the scale of the problem. The idea of education to work through the transition of education system was discussed which may help in actually building the competencies and capacities of young people so that they can find opportunities for themselves. In the United Nations it is believed that no one should be left behind, so he addressed the audience from the same perspective.
- He asked some questions specifically to the students sitting in the audience. For example, how many of them know exactly what do they want to do in life, what is their career plan, do they know what will be their career in next few years, etc. He said that he went to a government school and does not feel

bad about it at all. In India, preference will not be given to the government schools and some people can decide what do the students want to be, their attitudes and preferences. The idea of career counselling in India is absolutely nonexistent, especially when they go to the government schools. Therefore, there is a discrepancy between the knowledge they get and the opportunity to apply it or use it in their workplace. The United Nations Development Programme (UNDP) has been working a lot on this aspect. In another project UNDP is working on young girl and helping them discover what they are, who they are and so the idea of counselling is immensely important so that they can understand better and define for themselves their career path. Therefore, it is necessary to discover ways and means to bring counselling in Indian education system to enable students in defining career path by themselves.

- Before industrial revolution it took 100 years to bring in the technological change, the last one is less than 50 years and it is going to go faster and faster. Of the 65% of workforce entering into the labour market are going to do the jobs that do not exist at present. So building the technical skills for jobs that will disappear is irrelevant. There is another set of skills which we call the 21st century skills; these are the skills which can be applied to any kind of jobs. Digital skills are critical components of the world today; added to it are communication skills and transferable skills. Especially in India English-speaking skills are critically important. The cognitive skills need to be taught at the earliest stage of students' life. Most of the technical skills will be replaced by machines, so non-cognitive skills will help in inter-personal skills and machines will take time to learn this. By using these skills, we can provide more opportunities to the youngsters. It is not about the skills, it's about the attitude that goes with the skills and create a competence. For example, in India in some parts, the National Social Service (NSS) work for society but at the end of the day it is more beneficial to themselves because as volunteers, they develop skills of planning, creativity and teamwork. Hence, UNDP is doing the research with the Ministry so that students who are undergoing NSS programme are actually more employable as they have the skills and attitude both. This could be syllabised into potential employees.
- India needs to work on creating stronger linkages with private sector and employees. Industry can be more involved in the Indian education system. There are many linkages that need to be created: mentorship, guidance, guest lectures and most importantly through apprenticeship or internships. Firstly, the educational institutes should promote the idea of the experience, then it can increase factor of employability. What a person learns during the apprenticeship period, will be a relevant skill and a key to the potential employment.
- He concluded by saying that at the end of the day the youngsters should be the driving force and it's not much about policy framework or economy or

the private sector. It is a collaborative process; for example, teacher is not there to give knowledge as it is all available on everybody's phones but the teacher is there to accompany the students to build and grow on the career path. Students have to take equal responsibility to create the future as they want. The change is not a top down process happening from policy makers or politicians, rather it will come from the young people, who will be changing the ecosystem.

Track 6

Entrepreneurship and Employment

Chairperson: Mr. Clement Chauvet

Chief, Skill and Business Development, UNDP India

Concept Note

Entrepreneurship has a strong role in employment generation. Therefore, many countries like USA and China promote entrepreneurship development. India also stepped in recently to promote it by launching Startup India. It is a flagship initiative of the Government of India, intended to build a strong eco-system for nurturing innovation and Startups in the country that will drive sustainable economic growth and generate large scale employment opportunities. The Government through this initiative aims to empower Startups to grow through innovation and design. Till date, 12,387 startups have been recognized in India. More important, Startup India promotes both types of entrepreneurship (business and social).

Problems of development cannot be solved by the state alone, nor by the markets. They would require concerted effort on part of state, markets and society to come up with sustainable solutions. Given the proliferation of socio-economically disadvantaged groups across the world, governments are increasingly finding themselves financially constrained to provide for social security nets. Similarly, the markets have been found lacking in gearing businesses towards social problems. Social entrepreneurship or social enterprise development fills up a crucial intermediate space, where private initiatives pool together human and financial resources for addressing pressing problems of poverty, unemployment, livelihood generation, climate change and sustainability among others. Social entrepreneurship, by its very definition, comprises for-profit initiatives. However, these profits are for a purpose, and meant to support the financial viability of the enterprise while keeping the social initiative intact and sustainable in the long run. To capture the essence of social entrepreneurship, it may be profit-making but not profit-driven.

The knowledge partners for this track: SCIE and SIBM

Social entrepreneurship has to be differentiated from two key aligned terms viz. social service and social activism. It relies on the power of the markets to reach out to communities at the grassroots. The case of Muhammad Yunus and the Grameen Bank in creating a system of micro-loans for the poor serves as a landmark example. The poor have traditionally been beyond the ambit of the formal financial systems given their lack of adequate collaterals. In India, as per recent estimates, around nineteen percent of the population remains beyond the banking channels despite governmental efforts at financial inclusion. At the same time, the poor – women especially – have consistently demonstrated their ability to draw upon microfinance initiatives for self-employment and poverty alleviation. Thus, social entrepreneurship has the potential to spawn off further entrepreneurial ventures, thereby creating a dynamic chain of sustainable livelihoods. At the same time, concerns abound over the overcrowding of microfinance activities and the increasing indebtedness of their clientele, leading to debates on the need for regulating the sector.

Moving beyond microfinance, social entrepreneurship now spans a wide range of activities in India – including skill development, education, agriculture and fisheries, financial services, energy and clean technologies. It works with vulnerable, marginalized communities, identifies a key problem plaguing them and delivers market-driven solutions. It is funded and supported through a wide range of national and international donor agencies, investors and corporate groups. The amendments in The Company Act, 2013 related to Corporate Social Responsibility (CSR) has added a new dimension to the linkage between private businesses and society, making it mandatory for the former to invest in issues of social concern.

In this backdrop, this panel would address some of the following key issues:

- (i) What is the progress of Startup India? Are there any limitations and constraints?
- (ii) How can social entrepreneurship initiatives be scaled up?
- (iii) What are the limitations to the transferability of their activities to wider geographies?

On part of the state, what kind of policy framework can enable these ecosystems to emerge and thrive while at the same time regulating them? Also, how can programmes developed as part of Corporate Social Responsibility (CSR) of firms be integrated to serve larger social or developmental objectives of the government?

1. Mr. Clement Chauvet

Chief, Skill and Business Development, UNDP India

- The speaker began with making the statement that for last few years India has been experiencing a challenge of jobless growth. In this context, he has raised his concern regarding the employment creation and role of entrepreneurship in this regard. Realising that entrepreneurship has a bigger role in creation



of jobs for Indian youth who are the drivers of future sustainable growth of the economy, he has justified the subject of discussion of this session.

2. Ms. Shilpa Pophale

Managing Director, Electronica Finance Limited, Pune



- The speaker has shared her experience of last around 20-25 years and her work expertise in terms of employment generation through financing micro, small and medium enterprises with the audience. She has articulated that every entrepreneur has a different story, as they go through their own journey finding individual problems and issues. However, building a business meets another level of satisfaction and excitement.
- Her company, named 'Electronica Finance Ltd. (EFL)' has been started as a Medium Small and Micro Enterprises (MSME, here after) in a 200 square feet workshop. The vision of the company is not only to create success stories

for businesses, but to bring in a leading MSME space in broader structure as they receive very less focus. She has clarified that the company has net worth of Rs 50 crore to Rs 1100 crore as Asset Under Management (AUM)¹ and also has 45 branches across India.

- There are 6.34 crores MSMEs in India which have been contributing to 40% of country's exports. Their predominant focus is on manufacturing industry which generates 11 crore jobs or 69% of employment opportunities. Further, the small businesses form the informal sector of economy, which contributes around 50% to India's GDP.
- MSMEs are the engines of growth of the economy that is where real employment gets generated. A real value-addition happens much more than the large enterprises with MSMEs. There is an anticipation that the employment opportunities in the organised sector will be reducing due to automation, AI, big data, robotics etc. As a consequence of new technologies coming in customers are also looking at investing in robotics.
- In India, small businesses in the informal sector contribute around 50% of India's GDP. MSME in the informal sector has huge potential for employment generation. On the other hand, in the manufacturing industry, there is a serious issue of getting skilled labour. For example, Maharashtra suffers from problem of inadequate skilled labour and thus manufacturing sector employs migrated workers from Bihar and other states. Same is the case even for managerial positions. The issue is so prevalent that few of the customers have reported that with an efficient and good manager they will definitely be able to expand their business on large scale but not with the same structure. On one hand, there is a problem of huge unemployment and on the other hand there is lack of supply of skilled labour force and trained manpower. Therefore, we need to create skills first. Educational institutes have huge role in training people and filling this gap.
- She affirmed that entrepreneurship in India is definitely growing over the years because of stable business environment. Right now, there are initiatives like 'Start-up India' and 'Make in India' which helped not only in growth of entrepreneurship but also supported the GST implementation. There is a need of creation of more entrepreneurs in India.
- Informal sector is marginalised and there are less or no educated entrepreneurs in the sector. In the service industry in tier III, tier IV cities, and semi-rural areas, employment can be generated at a great level. The business models in the unorganised sector are very different and interesting. There is a huge credit gap in the informal segment as they lack the access to the funds, even though quest for expansion exists. If there is access to credit, then these businesses will definitely grow and create employment at local level. Eventually migration will reduce.

¹ Assets under management (AUM) is the total market value of the investments that a person or entity manages on behalf of clients.

- At the end, she has discussed about a prevailing topic of women employment. She has clarified that as the entire workplace and the timings of any work are planned and organised as per male requirements only, the priorities of women and families is not taken into consideration. Irrespective of the structure of the sector, organised and unorganised, there is a decline in women work force participation rate especially after marriage and definitely after having children. As a result, 3 out of 4 women do not work. In order to change this, there is a need to create women-friendly work environment and more opportunity for women in leadership position. As per McKinsey Global Institute's report, "The Power of Parity: Advancing Women's Equality in Asia Pacific, 2018", it is expected that if 10% more women work it will add to 770 billion dollars to India's GDP by 2050.

3. Mr. Suresh Krishna

Co-founder, Yunus Social Business Fund, Bangalore



- The speaker linked the topic for the conference "Future of Employment: Challenges and Opportunities", with Dr. Mohammad Yunus's – Social Business India initiative, which is based on the model of microfinance i.e., the 'Grameen model of Bangladesh'. The Grameen Bank has been a pioneering institute, introducing the concepts of microcredit and microfinance in the world. Inspired from Dr. Yunus's model of microfinance bank, Mr. Suresh Krishna started a bank in 1999, on a very small scale but presently in 2019 February, it has more than 100 companies in India. His company became a non-banking financial institution in 2007 and today it is a listed company which has a size of \$ 40 billion.
- Moving ahead he stated that finance is very important but insufficient for the growth. It is the determining factor which affects and influences what one can do. As per his experience, finance is not enough even though currently his company is lending to one million women across India. Today his company, Yunus Social Business Fund, India is supporting two and half million across eight states in this country.

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- Now they have become a non-banking finance company who lends to social businesses. There is a difference between a social business and traditional business. He suggested young minds to read the book written by Dr. Yunus 'three zeros', which signifies the need of zero poverty, zero unemployment and zero net carbon emission. He reinforced that this book and social businesses give the answer of the questions of the future which we are looking for.
- Social businesses are carried out to solve a social issue where the profits are reinvested to the benefit of not only the company but society as well. Most importantly, they generate employment at local levels which is the dire need of the hour.
- So far humans have progressed on large scale with respect to the technology. However, technology advancement has made our life easy but there are some consequences of it also. Technology soon might take over our jobs and livelihood, but to overcome this challenge we need to think differently. To conclude he has advised that we need to change ourselves for the future, it will reduce our pain and help us in making the world better place to live in.

4. Mr. Arjun Panchal

Founder and CEO, Papa Zapata, Pune



- The speaker revealed that entrepreneurship opportunities are divided into types: external i.e. which is followed by market trends and others judge about it, and – personal i.e. when the individual has a great passion to start the business in a given field.
- He cited the various reasons to start a business: influenced by personal passion, the family background and to gain the experience driven by adventure.

- He spoke about his last four years since 2015, as an entrepreneur, wherein he experienced that individuals generally take up entrepreneurship, influenced by personal reasons, while education helps them to learn and leverage the external opportunities.
- He then went on to discuss, how to generate employment and nurture entrepreneurship. He stated that the aim of entrepreneurship is to help others, and the by-product is generation of employment. While businessmen are generally motivated to earn money. The businessman is a market player while Entrepreneur is a market leader because he is the first to start such kind of enterprise. India has very less number of entrepreneurs.
- It is important to encourage entrepreneurs in India, as it can generate more employment. For this the budding entrepreneur needs financial support mentoring and motivating to encourage them. More educational institutes nurture the passion of the students by creating incubation centres which provide opportunities for them.
- He spoke of his entrepreneurial venture by starting Papazapataa – a Mexican-Indian food company, set up by him three years ago, having four outlets at present. The outlet sells Burritos, Nachos and other famous Mexican food items. In order to start the business, he undertook extensive research for 10 months. While the initial stages faced huge challenges resulting in losses to the tune of Rs 18-20 lakhs, which he stated was on account of poor guidance and financial support. However, in his onward journey, the losses got covered. The young entrepreneur was of the opinion that the mind set for entrepreneurship in India is still quite not promising and this needs to change. He expressed government interventions like Make in India, Start-up India, and other such initiatives which will provide good support to entrepreneurs. He also shared his observation and experience that women in India are growing and leveraging the entrepreneurship opportunities and this can be seen by many examples of young women who have started the business and are successfully running them, as social entrepreneurs.

5. Dr. R. Raman

Director, Symbiosis Institute of Business Management, Symbiosis International University, Pune

- The speaker took a participatory session in which the students had to participate about their perception of the future scenario of employment. He has used the case study of two persons, Mr. Kumar who was heading PepsiCo and Aditya Birla Group; the other is from Dr. Prince Augustin Mahindra based on the data and information reported by World Economic Forum's report on Future of Jobs 2018.
- He raised a question that whether there are enough jobs. He has answered affirmatively but he has included that the skills required for the jobs are not available. There are enough opportunities for entrepreneurship when a person has a great idea and they ensure that they show it to the investors



to receive funds for their businesses. However, there is a gap between not having skills to reach the availability and level of expectation. Similarly, not having idea also creates a gap.

- Then he moved ahead with the game of probability of various situations related to the future jobs in percentage where students got involved in the discussion. There was a series of questions which he asked which included types and aspects of jobs, female labour force participation, skills and trainings required for new kinds of jobs in the future, teamwork and soft skills as an integral part of working and lastly, the modifications that a company or department needs to undertake constantly to keep up with the fast changing world.

Track 7

Cross-Country Challenges

Concept Note

Demographic transition, social and economic transformation and technological progress are being experienced worldwide. Yet, agriculture remains the dominant source of employment in many countries (e.g. India, Bangladesh etc.). Nevertheless, jobs have changed significantly in some countries because of globalization and new technologies. BPO jobs, and e-commerce jobs in India are good examples here. Benefits of these advancements, however, are confined to particular sections of the society. For example, human resources with good communication skill are able to be absorbed in BPO sector.

This session attempts to understand multifaceted work challenges that are currently being faced by the world despite decline in global unemployment rate. In 2000, the total unemployment rate globally stood at 6.3 percent and inched downwards to 5.3 percent in 2007 and in 2017 stood at 5.5 percent. The rate of unemployment for the ten most populated countries according to the ILO numbers stood at the lowest for Japan at 2.8% and the highest for Brazil at 12.9% in 2017, with the same for China being 4.7% and 3.5% for India, in the same year. EU as a region had the unemployment numbers at 7% while South Asia as a region was at 3.7%. Given the varying trends in different regions and countries, with unemployment among the youth being one of the rising global concern, in November 2015, the Global Initiatives on Decent Jobs for Youth, recommended the following:

- Assigning priority to policies for job creation
- Targeting specific disadvantages of young people through skills and labour-market policies
- Forging partnerships for scaling up investments in decent jobs for youth.

It is imperative that in FECO 2019, through the discussions in the track, we revisit the issues and challenges and forge a pathway for future of jobs and employment by taking a look at various country experiences. The track seeks to pose questions such as:

The knowledge partner for this track: Department of Economics
Macquarie University



- (i) How does Brazil plan to address its high levels of unemployment?
- (ii) What are the focused strategies with respect to China's employment policies?
- (iii) Have the Trump policies been good for US workers?
- (iv) What is the impact of Brexit on UK's employment rate?

1. Dr. Elisabetta Magnani

Professor of Economics, Macquarie University, Australia



- The main focus of her paper was the effect of capital account liberalization on employment. She strongly put forth her view that job creation should be the top political priority, especially good quality and decent jobs. Her paper highlighted the fact that the global financial crisis has had an enormous adverse effect on employment.
- With respect to India, she mentioned that the country was in the early stage of financial liberalization. While liberalization of trade increases the welfare of the economy, capital account opening is beneficial as it allows more efficient allocation of capital across countries and industries. However, the flip side of the same is the resultant financial crisis of 2008, on the heels of increased capital mobility which may transmit financial shocks to select countries adversely affecting employment.
- She highlighted that the effects of financial crises on employment destruction have exacerbated the views that capital mobility may intensify the transmission of financial shocks, thus negatively impacting employment creation. In labour-rich countries where, because of the growing number of young people entering the workforce each year, good economic performance is measured by existing level of employment and creation of employment, the issue of capital controls may arise, particularly in times of financial markets' vulnerability.

- Her paper revealed mixed evidence of capital account liberalization on employment. The empirical analyses conducted in her study looked into micro firm level data. It was observed that firms mainly need finance for their expansion which had three main sources comprising cash flow, debt finance, and equity finance.
- While the supply curve reflects the supply of finance to the firms, the Marginal Revenue Productivity (MRP) curve reflects the firm's demand for inputs which shifts to the right with the effects of capital account liberalization.
- The main findings of Prof Magnani's paper showed the significant positive impact of capital on firms who want to expand employment. The paper also included human resources whilst talking about resources. The baseline regression run in the paper shows dependency of industries on external finance which seems to be more beneficial than internal sources of finance; therefore, relaxing financial constraints lends a positive impact on the economy.
- The speaker clarified the non-inclusion of the firm-specific factors like the consideration of big and small firms, domestic and export oriented firms, since such firms face problem of asymmetry of information.
- Lisa commented on the current trend of small, and medium enterprises where she acknowledged that small and medium enterprises do have a lot of problem in gathering finance because of asymmetric information. They limit their finance to cash flows and this limits their expansion plans of the firms. She also suggested complementary policies be taken up for this for a transparent banking system.
- While concluding she addressed that the focus should be on the quality of jobs that can make capitalism more civilized as there is a lot of volatility in the market.

2. Dr. P.N. (Raja) Junankar

Emeritus Professor, Dean's Unit, School of Business, Western Sydney University, Australia

- Prof Junankar discussed the labour markets of developing countries, which showed lower rates of unemployment compared to that of developed countries.
- He stated that resource curse¹ of developing countries and their transformation after their colonization have played an important role. He stated that in Least Developed Countries (LDCs) the concepts of employment and unemployment are fuzzy and not clearly defined. People are neither

¹ The resource curse, or resource trap, is a paradoxical situation in which countries with an abundance of non-renewable natural resources experience stagnant economic growth or even economic contraction. The resource curse occurs as a country begins to focus all of its production means on a single industry, such as mining or oil production, and neglects investment in other major sectors.



unemployed nor are they formally employed because of a large extent of informalisation of labour. Importance of employment doesn't solely lie on the income it provides, but also the social dignity that comes along with it

- He argued that poor people, for their means of livelihood and survival, remain employed in the informal sector. To address this issue, production should be shifted from low productivity sectors like agriculture to high productivity sectors like manufacturing.
- He also reiterated that increased education doesn't necessarily translate into increased employment. Moreover, increased growth is also accompanied by increased inequality. Therefore, increased growth is not a sufficient condition for increased employment.
- His paper pointed out that youth employment-population ratios showed a consistently decreasing rate, as youth mainly stay in education for a longer period. Also, as unemployment rates are low in developing countries, it is not a good measure of the well-being of the people.
- He deliberated upon the concept of vulnerable employment, which comprises people who work within their family, for example small-time businesses like tea stalls and highlighted the fact that data have shown such vulnerability to be higher in India when compared with China. Highlighting on the sectoral composition of youth employment he stated that huge proportion of people work in agriculture in LDCs and, therefore, it is imperative that conditions should be improved in such sectors.
- Further he reviewed some trends in the labour markets, wherein he has observed that adding to the challenges of unemployment, there is an increasing demand of experienced workers, which makes it difficult for youth

to find jobs without any experience and also that during recession people who are hired last are fired first. Therefore, people tend to be increasingly employed in low quality jobs in the informal sector. Further, informal employment is higher in urban as compared to rural sector. He pointed out that labour today are not wage labour but 'short term casual labour'.

- To deal with the problem of youth unemployment, LDCs have employed effective policies but along with the policies, there should be efforts made to formalize the informal markets and introduction of decent jobs. Increasing education should be accompanied with increase in aggregate demand by the government so as to avoid educated unemployment. However, in developed countries technical and vocational education on jobs should be increased to deal with the same.

Key Takeaways

Inaugural Track

- India has the second largest population and this needs to be converted into productive human resources for the future. Youth unemployment is rising both globally and in India. Indian universities should impart the right skills that will not only contribute to employable resource persons in India but also in many countries increasingly facing an ageing population.
- Quality education is crucial to enhance the skills and employability of human resources. There is therefore a need for different kind of universities and educational institutions, which can prepare the youth with skills required for the future.
- India has the largest number of people who have recently escaped poverty and labour earnings has been responsible for much of the decline in poverty.
- Employment rate has been low in India and with declining female in labour participation rates increasingly contributing to the same. Thus, India has already foregone some of its potential demographic dividend.
- To arrest further declines in employment rates, India needs to create seven million and more jobs a year. However, economic growth alone would not be enough to achieve the higher employment rates enjoyed by other developing countries, particularly in East Asia.
- The current digital revolution is recasting the relationships between customers, workers, and employers and have serious consequences in terms of job losses and a churn in the job composition.
- The digital revolution is not about creating a thin layer of jobs, say for computer scientists. It is imperative to look at the job creation side as well and not only the possibilities of job destruction. Taking the case of the gig economy for instance, Ola and Uber have created more than one million jobs in India.
- A series of policy prescriptions are required to overcome employment challenges of the future. For example, macroeconomic stability, flexible labour policies, access to market, electricity and railway connectivity, primary, secondary and tertiary education, and, size of micro, small and medium enterprises (MSMEs), and land reforms are important interventions. However, it is imperative to also expand the net of social protection and understand the challenges of job creation and retention in the future.

Track 1: Challenges in Employment Statistics

- Three broad challenges prevail on employment data: lack of sufficient official data (the official data comes so late that it is of no use, except academics), delay in conducting household survey and releasing the results and delay in establishing credible enterprise survey.
- There is a need for us to rebuild the credibility of independent statistics institutions. The government data has to be strengthened and more data made available. Emphasis should be given to use of advanced technology to reduce the time gap between collecting, assessing and disseminating reliable and accurate employment estimates.
- The Periodic Labour Force Survey (PLFS) was recommended by a Task Force Committee to provide data at all India-level annually and quarterly estimates for urban areas. The first PLFS was conducted in the year 2017-18.
- From 2018, the Government has been releasing the pay-roll data from Employment Provident Fund (EPF) but it pertains only to the formal sector and, therefore, gives a partial picture of employment in India.
- The household surveys are reliable to study labour market in a country like India which has dualistic market comprising both organized and unorganized sectors. The last official NSSO survey was released in the year 2011-12. In the meantime, CMIE started producing household survey data since 2016 which has sample size larger than NSSO. It indicates employment-unemployment increasing or decreasing trends which are similar to periodic labour force survey.
- The current weekly status is used as a parameter to check employment or unemployment status of an individual. The standardized pattern is followed in most of the countries, including the developed ones. In a developed economy, if a person has worked for one-hour, we could easily presume that s/he has worked whole week; this is because of the presence of regular, stable jobs. This would not hold true of India; if one has worked for one-hour, then s/he might have worked for just that one hour in that entire week. There is no guarantee that s/he may have worked longer than that period of time. Therefore, we need to have both short-term and long-term data on employment.
- Consumer Pyramid Household Survey is a panel survey of 172,000 households, and CMIE surveyors repeatedly go to the same households, the panel increases at small rate 1.5-2% per annum. Nearly 1500 households are sampled daily. The survey is organized such that CMIE gets a fair representation of rural and urban households every day.
- There is a need to focus on quick enterprise survey which properly carried out especially by using random selection assures net picture of the economy, compared to sectoral ones that gives a wide range of information about each household.

- To capture the service sector there is a need for preparing and releasing annual surveys of services similar to the annual surveys of industries.

Track 2: Productivity, Technology and Innovation

- Technology, innovation and productivity have created newer jobs in the economy but of a certain kind. With the introduction of Artificial Intelligence (AI) and automation, there is also a displacement and reorientation of jobs.
- Jobs need to be looked in the larger context of 'rojgar' (employment/ work). The desire for permanency of jobs is passé.
- The growth theory of the firm usually captures the industrial growth or inter-sectoral growth but does not cover the kind of work performed within the sector. Therefore, for capturing the growth in a better manner and understanding positive and negative elements of firm's growth, a variety of work within firms and sectors should also be captured.
- India's expenditure on Research & Development as a percentage of GDP has been hovering around 0.7% to 0.9% and the goal has been set to increase the same at 2% of the GDP.
- It has been observed that very little research is being contributed through the higher education institutions – contributing less than 4% of total R&D with the bulk (70%) coming from the public sector.
- Presence of large number of multinational corporations (MNCs) in India should be leveraged in terms of improving the technology R&D. This could provide an opportunity to develop potential sectors such as electrical engineering and hardware. Robots in Western Europe, USA, and Japan were particularly and heavily used in automotive industry and then moved to other industries for instance, electronics. There are works where cognitive skills are not required and, therefore, robots can easily replace humans. In the automotive industry it is found that robots were particularly used for welding especially in arc and spot welding. These works are usually human unfriendly and hazardous.
- The density of number of robots employed per 10,000 labour force can be a very revealing statistic. The world average is around 69, while in India, it is only 10. Interestingly, the density in the automotive sector in India is quite high viz. 54 robots per 10,000 of labour.

Track 3: Informal Economy Concerns: Contributions and Challenges for the Future

- Informal sector is extremely heterogeneous in India. A sizeable chunk of the informally employed are identified largely as own-account workers, wherein, around 50% of workers are self-employed, 30-32% are wage or casual workers and 18% are regular workers. Adding to the complication, all regular workers are not formal workers.

- In India, a definition of the informally employed comprises those working in unincorporated enterprises below 10 workers as per the Factory Act, 1948 or other Acts covering several sectoral aspects of manufacturing. It also includes all unincorporated enterprises where the workers do not have any security.
- India has the highest incidences of informal employment, which is as high as 93% of total employment, whereas in China it is only 30%.
- From the NSSO data, it was observed that over 70% of the workforce in the rural areas and over 60% in urban areas were engaged in informal sector. Importantly, around one-third of the informal workers in India are not poor.
- According to 2013 data, of the estimated 58.2 million total enterprises in India, 80% were own account enterprises. Manufacturing has been the sector where own account enterprises are growing. Further, in this sector, 57% of the enterprises operate from home. With respect to services, sectors such as hotels and transport have been growing in terms of enterprises at a faster rate during the period 2005-2013.
- Factors leading to the expansion of own account enterprises include the increasing use of the internet, registration with statutory authorities and government assistance.
- Changing technology will affect informal sector and employment. It is becoming increasingly difficult to decide whether an employee is in the gig economy, a wage worker or self-employed. Uber and Ola are some examples of such fuzziness.
- Urbanization and informal sector employment does not show any specific relation. Across states with low, medium and high levels of urbanization, informal sector employment was high. Informal employment is a function of the formal sector.
- Migration, informal sector employment and the incidence of Scheduled Castes population are all positively connected with each other and this incidence is accompanied by the decline in the poverty in nominal terms in both rural and urban areas. Higher rural-urban literacy tends to raise the migration rate. The disadvantaged section (Scheduled Caste) migrates in order to escape their vulnerabilities and improve their lives.
- The retail and construction sectors are of importance, both globally and in India. These sectors are dominated by the unorganised sector in terms of the share of employment. They are important sectors absorbing agricultural labour seeking to move to non-farm employment. Both construction and retail have been important sectors absorbing agricultural labour seeking to move to non-farm employment. Construction sector in India employed 50 million workers while retail employed 40 million workers, with women constituting 12-15% in construction sector.
- Modern technological changes are not going to have a major impact on these sectors but employment growth rate of construction will slowdown in the future.

- There is a need for policies, which are environment-friendly, labour-friendly and will facilitate the training of workers so that they can participate in the future transformations of jobs. All workers associated with informal sector cannot be categorised as vulnerable, as this does not do justice to the dynamism of the informal sector.

Track 4: Labour Reforms and Employment

- Economic growth and employment or jobs have not grown at the same pace. Elasticity of employment with respect to growth has been low, thereby resulting in jobless growth in India. Therefore, the government needs to intervene in terms of pro-growth or pro-employment policies.
- Labour has nothing to reform but what we need to reform is labour laws and governance mechanisms.
- Labour laws and reforms can be broadly classified: the labour market reforms for organised sector and then labour market reforms pertaining to the unorganised sector. The labour market reforms for organised sector should be systematic, wherein codifying laws are the soft reforms. Then there are hard core reforms which are altering chapter 5 (B), or any threshold which will push people out of employment or push people from formal employment to informal employment. The soft reforms are governance reforms which are procedural efficiency or e-registers and all such kinds of things. Hard reforms in the unorganised sector are social security assistance and insurance.
- Special Economic Zones: if at all, they have created employment, this would not be because of the labour concessions but because of the economic concessions given by the State governments.
- While urbanization policy would ultimately have a positive effect on employment generation, cities in India have not been able to create those job numbers. The underlying reason is that India is far less urbanized compared to other countries.
- Indian labour laws have been accused of being pro-workers and not pro-job creation—protecting 5-7% of the total labour force. The Indian manufacturing sector has moved from the situation of socialism to marketism without allowing them to exit.
- The existing strict labour laws deter firms from coming into the market, even if there are opportunities to enter which has created a gap in the growth pattern and at the same time not generated the employment required.
- As political complexities are more at regional-level, hard reforms have been shifted to state-level. There exists non-action or sluggishness in implementing reforms. For instance, as per the Minimum Wages Act, the wages should be revised at least once in five years whereas the special allowance or dearness allowance will get revised every six months.

Track 5: Education, Skill Development and Employment

- The gap between education and employability needs to be addressed. We need to create future ready universities that can match the needs of industry 4.0. The education in future needs to be contemporary, and also contribute to life-long learning. It needs to have a curriculum which is close to reality.
- The traditional education models should make way for the new and changing order of the society. Universities should be prepared for the unprecedented challenges as well as innovations and technological advancements. Therefore, to integrate technology in its academic delivery, a combination of MOOCs and traditional classroom teaching will need to be factored, wherein, Education 4.0 is a response to Industry 4.0, placing the students at the centre of the higher education system.
- Further, according to OECD data, 65% of the youth in the future will work in the professions which are not existing today and therefore education will have to be more contemporary, and also contribute to life-long learning.
- The future workforce will depend upon three core competencies viz. (i) knowledge remains important in the technological age, (ii) skills are important, especially transitional skills will be required in any kind of job we are going to do in the future and (iii) attitudes and values.
- Nations are undertaking 360 degree reforms that cover general education, vocational education, training, higher education and adult education. Since the developed world will face a shortfall of workforce by 2030, India should be prepared to fill this gap to a large extent. Therefore, the youth in India needs to be appropriately skilled to make them globally competitive and employable.
- The making of an educational policy is a complex process. It should encompass strong political commitment, diplomatic skills in bringing people of different skills, having the right attitude and all these together should most importantly work towards ‘making all better-off’.
- The future education system should have a right mix of both general education and vocational education. It should also be problem solving and flexible in nature. It should have incorporated the technological infrastructure required which can stimulate innovations and research. There should be an outreach model for those who are ‘Not in Education, Employment or Training’ (NEET), to streamline them back into education, training or employment as increasing number of NEET in the country pose a demographic and economic challenge.
- Microsoft Corporation India Pvt. Ltd., is a case of industry and education working in close sync. The presence of technologies such as AI, IoT, cloud computing, automation and machine learning are disrupting existing business models. Therefore, the jobs in the future will require specialists – those who can create solutions of cloud technology, energy auditors and sustainability

managers. The rapidly changing scenarios will compel resource persons who wish to be gainfully employed to become lifelong learners. With 21st century skills, it is necessary to imbibe critical thinking, how to collaborate, solve real world problems and other such interventions. Therefore, Microsoft has developed a digital transformation framework in education which is not just about hardware and software conversation, but it is all about teaching, learning and research.

- Microsoft education provides a platform to work on number of institutes from primary to higher education, are powering projects across 100 countries, over the last 12 years. The company has trained about 8.5 lakhs teachers across 12 states. The focus is in the domain of higher education and on pedagogical innovations. Further, Microsoft have certification for teachers on teaching technologies; these are globally accredited by the UN and UNESCO and recognised worldwide.
- India faces a huge challenge of skill development, with more than 105 million youth between the age 15-29 not being a part of education, employment and training (NEET). There is therefore a need to focus on skills in the agriculture sector, unorganised sector and English language skills, which will make our human resources become future ready.
- Quality of education should be aligned to the job market and there is an urgent need to enhance vocational education and skills. Universal secondary and higher education will create a high level of unemployed labour force.
- The education policy needs to be aligned with the industrial policy of the country. While the majority of the population is in rural India, dependent on agriculture, skill-based education related with the sector are absent. India should follow the Germanic model of skill development.
- Career counselling should be a part of schooling which is virtually absent in government schools in India.
- India needs to work on creating stronger linkages with private sector and employees and the educational institutes should promote the idea of the experience which can increase the employability factor.

Track 6: Entrepreneurship and Employment

- India is experiencing jobless growth presently. Entrepreneurship has a bigger role to play in job creation for Indian youth, and it is entrepreneurship which will be one of the drivers of future sustainable growth of the economy.
- MSMEs are an important growth engine with 6.34 crores MSMEs in India, contributing to 40% of the country's exports, generating 11 crore jobs or 69% employment opportunities.
- The employment opportunities in the organised sector will face challenges as has been anticipated because of technological transformations, resulting in increasing automation, Artificial Intelligence, big data, robotics, etc.

- The informal sector contributes around 50% of India's GDP and MSMEs in the informal sector have a great role to play with respect to employment generation. However, the challenges of finding skilled labour in the manufacturing sector shows labour market challenges.
- The Government of India has introduced various initiatives like 'Start-up India' and 'Make in India' that are contributing to the growth of entrepreneurship and also to initiatives such as GST implementation.
- Tier III, Tier IV cities and semi-rural areas are those where employment can be generated to a very large extent but lack educated and qualified entrepreneurial spirit. The credit gap in the informal sector acts as a deterrent to expansion and thereby job creation.
- To encourage women's participation in labour markets, organisations should keep in mind the requirements and the priorities of women and their families. It is expected that if 10% additional women come into the workforce, it will add to up to 770 billion dollars to India's GDP by 2050 as per 'The Power of Parity: Advancing Women's Equality in Asia Pacific, 2018' a report by McKinsey Global Institute (MGI).
- The Grameen Bank model followed in Bangladesh, if emulated in India, will help empower the poor with microcredit and thereby addressing some of the concerns of unemployment.
- Keeping in mind the technology effect which may cause job losses, it is imperative to change ourselves in order to prepare ourselves for the uncertain future of employment.

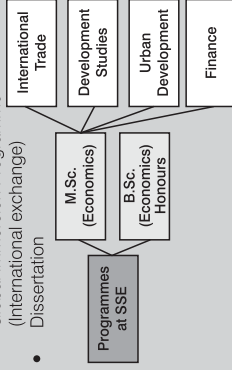
Track 7: Cross-Country Challenges

- Capital account liberalization has an effect on employment. Increased capital mobility, in the backdrop of the 2008 financial crisis, has transmitted financial shocks to select countries, adversely affecting employment.
- It is important to focus on the quality of jobs that make for more civilized capitalism as there is a lot of volatility in the job market. Job creation should be given top political priority.
- Labour markets of developing countries showed lower rates of unemployment compared to that of developed countries.
- It was observed that youth employment-population ratios showed consistently decreasing rate as youth mainly stay in education and there are low employment opportunities emerging in the given age group.
- The resource curse of developing countries neither causes unemployment nor formal employment because of a large extent of informalisation of labour. Due to higher percentage of informal employment prevailing, vulnerability seems to be very high in India for labour involved in the informal market.

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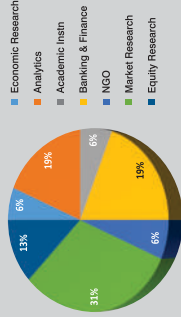
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Research Areas

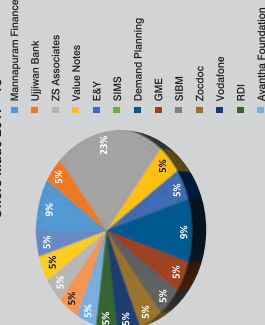
- Social Sciences
- Development Studies
- Urban Studies
- Rural Development
- International Studies and Trade
- Behavioral and Experiential Economics
- Projects
- Rural Development infrastructure Index: including Physical, Social and Institutional Dimension
- Sustainable Development Goals for Rural Maharashtra 2030 : Achievements and Constraints
- Engaging with Maharashtra's Smart Cities
- "Financial Inclusion and its Impact on Development: A District Level Study of Maharashtra"
- Goa Governance Index
- Urban Mobility Transformation Services Pvt. Ltd.
- Impact study of Tribal Development at Junner District

Placements

Sector wise Distribution 2017 - 18

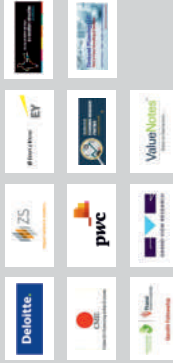


Offers Made 2017 - 18



Activities

- Career Counseling Session
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